The Manitoba Medical Review

Vol. 27 AUGUST, 1947 No. 8

PAEDIATRICS

Milk Allergy in Children

R. C. Browne, M.D.
Fort William, Ont.

The diagnosis of food allergy is one which of late years is being made more and more often. This, I think, is due to a combination of an actual increase and of an increased awareness of the condition leading to the correct diagnosis being made more often than was formerly the case.

Because the signs and symptoms due to food allergy are with few exceptions common to all foods, and because in children milk allergy is one of the most common, and certainly the most important form of food allergy, only those due to cows milk will be considered here. These signs and symptoms vary greatly in frequency and in severity, from the very common mild bladder irritation which causes frequency of urination or enuresis, to the fortunately rare angioneurotic oedema of the glottis which may cause death in a few moments; and they may affect almost any part of the body. It is not the purpose of this paper to present a long detailed discussion of all these signs and symptoms, but to point out the ones which can be due to milk allergy, and to outline some of the more important factors in the treatment.

The classical example of milk sensitivity is infantile eczema, which as a rule starts on the cheeks of an infant three to five months old. There is more variation in the extent and severity of eczema than of any other symptom of milk sensitivity. Some will never have more than a little redness and roughness of the cheeks for a few weeks, but a few will develop at the age of three or four weeks an erythema of almost all the skin surface which rapidly goes on to exudation from cracking of the skin or from the raw surface left when the inflamed outer layers of the skin are scratched or rubbed off by the constant wriggling of the child. The itchiness is constant and intense, and as a rule there are gastro-intestinal symptoms as well, so that the infant is in a state of continual discomfort which means the parents will have not a minute of peace, day or night, perhaps for one to two years, unless the offending substances are all found and removed. Unfortunately in these very severe cases of eczema although milk is often the main offender there is usually multiple sensitivity including that to contact irritants. There are, of course, all grades of severity between these two extremes.

Another very common skin manifestation is what is often called a diaper rash—an erythema of the diaper region which is localized there because it is due to a contact allergen excreted in the urine and sometimes in the stools. It will at times be severe enough to cause ulceration of the labia and buttocks lasting for weeks, unless the cause is recognized.

In older children occasionally there will be found a chronic papular urticaria. The history will often reveal that there was eczema in infancy followed by a period of perhaps years with no skin symptoms until the onset of the urticaria, and often too there is a history of increased milk-drinking at that time, either from desire or because the child was forced to drink more by anxious parents.

Angioneurotic oedema due to milk is not common, but is important as it usually occurs in infancy, when a bottle feeding is given for the first time, or when cereal is first given diluted with cows milk, in a breast fed child. It is a very alarming condition because within a few moments of the first taste the lips and membranes of the mouth swell enormously, and if any has been swallowed there may be enough swelling of the throat to block off the air passage and cause death by suffocation.

Gastro-intestinal symptoms of milk allergy are very common in infancy, and will usually precede the appearance of the rash by a month or two when eczema does develop. Those referable to the stomach include refusal to feed properly even when the child seems ravenous at feeding time—he will gulp down an ounce or so, then stop and will refuse further milk although he will drink water eagerly if it is offered. There may be eructation of large amounts of gas immediately after or even during the feeding—amounts far greater than could be accounted for by air swallowed with the milk. There may be projectile vomiting of the milk during or immediately after the feeding, and there is often a large amount of gas brought up with milk, so that the nurse or mother reports that the baby almost seemed to explode. This type of gastric reaction is seen most often during the first two weeks when a bottle feeding is first given, and is all too often confused with pyloric stenosis, but the history is quite different. The vomiting starts abruptly with the first bottle feeding, is projectile right from the first, and occurs at each bottle feeding, while

MEDICAL FACULTY LIBRARY McGILL UNIVERSITY

in pyloric stenosis the onset is more gradual, vomiting does not usually occur after each feed, and is projectile but not explosive, because there is not the large amount of gas formed in the stomach and brought up with the milk. In allergic gastritis there will sometimes be a small amount of bright blood brought up with the milk. In all allergic conditions of the gastro intestinal tract there is oedema and congestion of the veins of the mucous membrane of the part involved—which may be slight or marked, and when the congestion is marked a vein may rupture and bleed, causing vomiting of bright blood if it is in the stomach, bright blood in the stool if it is in the colon, or digested blood if it is in the small bowel.

Intestinal symptoms are very common, and the most common of these is the occurrence of cramps half an hour or so after feeding. Many infants said by the physician or others to have "just ordinary colic" really have an allergic intestinal reaction, but it is often difficult to be sure unless other allergic signs and symptoms present themselves. The stools may be normal in appearance, or there may be hyperperistalsis with the stools more frequent and looser than normal, containing curds, and accompanied by the frequent passage of flatus. Many of these infants are of the hypertonic type—thin, easily startled, with all the voluntary muscles in a state of exaggerated tonus when awake, and are awake crying almost continuously for hours at a stretch till they fall asleep exhausted. They seem continuously hungry even when given far more than the normal amount of feeding, but the more they are given the more uncomfortable they are. On the other hand, some older infants who are allergic to milk, and particularly children a year or two old, have a very poor appetite for all foods and complain of stomach-ache frequently as long as any milk is given, but when milk is withdrawn completely will in a few days eat all other foods remarkably well, with no pain or other symptoms.

When there is a marked allergic reaction in the intestine there will be abdominal distention, varied or constant. When it is constant it may still vary considerably in amount, with periods of very marked distention during which the outlines of the bowel may be seen through the abdominal wall, followed by bouts of diarrhoea with the passage of loose, undigested stools, often very light in color, and probably accompanied by some vomiting. There will be rapid loss of weight at this time. The general nutrition of these infants is poor because there is faulty digestion and absorption of food, little tolerance for fat and not much for sugars once the condition has been established. Because of the similarity of the symptoms, the character of the stools, the distention and the wasted appearance of the child, more than one case of this kind has been mistaken for coeliac disease. However, the true picture is readily seen if there is a prompt improvement in all symptoms in a few days when no milk is allowed. There is a striking difference in x-ray pictures of a Barium series in these patients when the Barium is given with milk, compared to the pictures of a similar series when the Barium is not given in milk after a few days on a milkless diet. It is well to consider milk allergy in all cases of coeliac syndrome, especially if there are or have been other allergic conditions such as eczema present[1].

Rarely, the allergic reaction will be confined to the colon. The history then is that the child seems well all day, but each evening is awake crying and squirming or straining[2], for hours, and will not settle down until the colon has been emptied by repeated non-irritating enemas. The stools are usually normal in appearance and there is no distention, but there may be a little bright blood with the stool. Sometimes the lower colon can be felt to be in a state of spasm, and if a proctoscopic examination is done the mucosa is seen to be markedly oedematous and congested. One must, of course, rule out other chronic irritants such as pinworms or the repeated use of glycerine suppositories.

In the urinary tract, the symptoms of frequency and enuresis (which are not due to kidney or bladder infection, or to pinworms in girls), are not uncommonly due to milk allergy. This is usually found in older children, because little attention is paid to these symptoms in infants; and as a rule there is a history of eczema or other allergic symptoms in infancy which disappeared as the child grew older, and a history of increased consumption of milk later. The child may still not like milk but be forced to take it by the parents, or on the other hand he may have become very fond of it. It is always worth in these cases to try a no-milk diet, for when milk is the cause there will be a remarkable improvement within a few days, even when no habit-training or other measures are used.

Asthma is the outstanding manifestation of milk allergy in the respiratory tract. In infants and small children the allergen is more often a food than an inhalant, and nearly always there are gastro-intestinal or other symptoms present most of the time, with asthma only when there is a super-imposed respiratory infection.

More common but not so dramatic as asthma is a perennial allergic rhinitis. The doctor is usually consulted because the child has eczema or colic, and the mother mentions that the infant's nose has been snuffy almost since he was born, although it doesn't run much, or if the child is

older that he has continual colds—his nose never seems to clear even in the summer and he develops a dirty discharge and sore throat more frequently than most children. The nasal mucous membrane in these cases is seen to be pale and boggy, there is an abnormal amount of nasal and post-nasal mucus and a strained smear of the discharge will often show an increased number of eosinophils present. This condition should not be ignored because of the increased likelihood of developing acute otitis media, or chronic suppurative sinusitis after repeated acute upper respiratory infections, due to lack of proper drainage when the nasal mucous membrane is continually swollen. Far too often the tonsils and adenoids which are also large and boggy are needlessly removed at a very early age because of their size, not because they are infected, but this has little or no effect on the frequent colds and constant sniffling.

In regard to the respiratory tract, and to a lesser extent the gastro-intestinal tract, the old superstition that milk is mucus-forming has an actual basis in fact—if the patient is allergic to milk.

Allergists know well the marked improvement in disposition which sometimes occurs along with relief of other symptoms such as asthma and eczema for which the doctor was consulted primarily. The same improvement is often seen in children with milk allergy in whom there may be no obvious symptoms such as asthma, but rather a combination of indefinite symptoms such as poor appetite, indigestion and vague stomach-aches and very noticable irritability and quarrelsomeness. When the child is put on a milk-free diet not only do his complaints disappear in a few days, but he becomes much happier in all respects, easier to live with and brighter mentally.

Rarely, attacks of severe typically migrainous headache occur in older children, in which the trigger mechanism is a food allergen. When the food is a common one such as milk it may be very hard to trace as the cause, unless a very careful history is taken—this history will usually reveal other allergic symptoms in infancy, followed by dislike for milk, then an increased intake of fresh milk at the time of the attack, or a change from evaporated milk to fresh milk.

The ideal treatment of milk allergy is to remove all milk-containing foods from the diet. However, this is not always practical when carried on for any length of time, especially in infants and rapidly growing children whose chief source of the calcium and protein necessary for proper growth is milk. Nor is the complete removal of milk always necessary. It is said that the proteins in milk are the allergens which precipitate allergic symptoms, but there are undoubtedly patients in whom milk fat acts as one of the allergens, if not the chief one. This is particularly true in the dry atopic type of eczema and in those with symptoms referable to the small intestine. The proteins present in all milks are casein, which is the same in milks of all species of mammals; and lactalbumen, which varies with the different species. If the patient then is sensitive only to the lactalbumen in cows milk, he can be given goat's milk and be relieved of his symptoms, but goat's milk is not available at all times in most parts of this country. Evaporated goat's milk, which is to be produced in Canada in the near future, will be quite a help in this respect. Unfortunately most patients are sensitive to casein.

The degree of sensitivity to cow's milk varies a great deal in different patients. Approximately 60% of those who have definite symptoms caused by fresh milk, have no symptoms when changed to evaporated milk, and more particularly to the partly-skimmed evaporated milk now available. When there is no improvement with evaporated milk a small percentage will improve when the same formula is acidified with lactic acid.

Those with a higher degree of sensitivity require a dried milk powder such as Hypoallergic milk, or Dryco which has a low fat content. Here again acidifying the formula is often a help.

For those who are not able to tolerate any fat, one must use skimmed milk treated by prolonged cooking (for one to three hours) with or without barley flour or rice flour.

Those unfortunate patients who still have severe symptoms when given any modification of cow's milk or goat's milk must then be fed artificial milk. These artificial milks are those whose chief constituent is soybean meal or flour, such as Sobee and Mullsoy; and the artificial milks which can be made with rice flour, barley flour, etc., as outlined by Wolpe & Silverstone[2]. These are very useful in the severe generalized eczema of early infancy, and in those patients with marked intestinal symptoms resembling coeliac disease who will not gain or grow properly as long as there is any cow's milk in the food. Sobee has a tendency to cause marked constipation if no other foods such as fruits are given, but this doesn't seem to be nearly as common when Mullsoy is used. A few of these patients are also allergic to soybean, but one or more of the artificial milks made from other cereal flour can always be used.

It is preferable in those who are given skimmed milk to alternate with an artificial milk formula one or two days a week, to provide some vegetable fat. If this is done it will be found that cream (or animal fat) can be added back to the formula at any earlier date than if it is not done.

Those who require artificial milk entirely at first will usually be able, after a few weeks, to tolerate some long-boiled skimmed milk. It may be added to the artificial milk in very small, gradually increasing amounts, or given instead of the artificial milk one feeding a week at first, and gradually more often as the child will tolerate it.

For older children on an otherwise normal diet who have allergic symptoms not relieved by the use of evaporated milk, it is wise to stop all milk entirely for several weeks, giving extra calcium with the meals, and then to attempt desensitization to milk. This is done by adding one drop of evaporated milk to a glass of water and giving a teaspoon of this mixture the first dose then increasing by one teaspoon at each meal till the whole glassful is taken. The evaporated milk is then doubled in amount each meal till there is a teaspoonful of milk in the glass of water, then increased by a teaspoon every day or two till equal parts of milk and water are reached. When this has been used for several weeks a few drops of fresh milk are added to the evaporated milk and increased gradually in the same manner. If this procedure is followed nearly all patients will eventually be able to tolerate fresh milk, and although it is a long, slow process it is well worth while in children; and also in adults who are extremely sensitive to milk.

A word of caution must be added—don't rely on skin tests in making a diagnosis of food allergy, for they are notoriously unreliable in the case of foods. If the results of the tests parallel the clinical findings that is all to the good, but if they don't, one should place very little faith in them.

References

1. R. H. Kunstadter — J. Paed. 21-193, 1942.
2. Wolpe and Silverstone — J. Paed., 21, 635, 1942.

Congenital Anomalies of the Oral Cavity

M. J. Averback, D.D.S.

The Congenital Anomalies of the Oral Cavity will be reviewed in the following order:

Harelip
Cleft Palate
Congenital Fistulas of the Lips
Abnormal Labial Frenum
Congenital Anomalies of the Tongue
Dental Manifestations of Congenital Syphilis.

Harelip

Harelip is a cleft in the upper lip, a deformity of congenital origin, varying in different individuals in size and location. The nomenclature used in the description of this defect is misleading, since the deformity does not resemble the cleft of the hare's lip, which is normal in the rodent and located in the median line bifurcating the nostrils; whereas, harelip in man may affect any part of the lip.

The etiology of this deformity as well as that of other clefts is still beclouded. Non-union of the two globular processes causes a maxillary median cleft, which is the true harelip, normally occurring in rodents. More common is the lateral harelip which is due to the failure of the maxillary processes to unite with the globular process. Isolated cases have been demonstrated where the etiology was based on mechanical factors. It has also been proven that Syphilis may be associated etiologically through the injurious effect on blood vessels. Perou (1930) reports Syphilis in 37 of 105 cases. Heredity plays a considerable role in the transmission of harelip. Saunders (1934) published a comprehensive paper proving that the factor of heredity was present in 44.5% of his cases. Schroeder (1935) reviewed 75 cases of clefts seen in the surgical clinic of Munster (1932-34) and found a hereditary factor in 42.7%.

Harelip in the human being may exist as a mere notch in the vermilion border, or it may continue into the floor of the nose, or into the alveolar process and palate forming a complete fissure in both hard and soft portions of the latter. Harelip may be classified into unilateral and bilateral types, each being complete or incomplete. Incomplete clefts often show a distinct line or irregular union that resembles a scar. A flattening of the ala and broadening of the nostril accompanies complete harelip. The harelip which is combined with a cleft of the alveolar process is spoken of as Cheilognathoschisis, and when the palate as well is involved, as Cheilognathopalatoschisis. In bilateral Cheilognathoschisis there is a marked protrusion of the premaxilla.

Harelip is more common in males than in females, and occurs more frequently on the left side than on the right. Koelliher mentioned that in 165 unilateral clefts, 113 were on the left side.

Cleft Palate

Cleft Palate, like harelip, is a congenital deformity. It results from lack of union of the processes which go to form the maxilla. Heredity has also been considered an etiological factor in cleft palate. Of the various other theories of the etiology, faulty nutrition and mechanical interference are given the greatest prominence. Several investigators feel that the tongue develops in an upward direction, and has normally a great deal to do with the union of the palatal processes, and when failing to develop normally may prevent union. This is especially the case in abnormal head positions of the fetus.

The various types of cleft palate are:

1. Incomplete cleft palate, according to the length and location of the cleft.

(a) bifid uvula,
(b) cleft of the soft palate,
(c) cleft of the hard palate,
(d) fissure of the alveolar process on one or both sides of the premaxillary bone.

2. Complete cleft palate is a cleft which extends through all parts of the roof of the mouth, through uvula, soft and hard palates, and through the alveolar process. It is mostly combined with harelip.
   (a) unilateral,
   (b) bilateral.
3. Bipartite palate or intermaxillary cleft is a palate which has only a single defect of the anterior part, separating the premaxillary from the maxillary bone on the one side, while the other side is normal.
4. Tripartite cleft extends through the soft and hard palates, separating the premaxillary bone on each side from the maxillary bone. It is usually complicated by double harelip.

Cleft palate occurs, as a rule, in conjunction with harelip; both are failures of union and are often associated with other congenital defects as: hydrocephalus, inguinal and umbilical hernia, club-feet, a supernumerary ear, extra toes on each foot, extra thumbs on each hand, curvature of the spine, absence of one or both eyes, absence of premaxillary bone, fissures of cheek, angioma, open foramen ovale.

The palatal cleft presents a difficult feeding problem for the infant. The use of the medicine dropper or spoon is tedious and fatiguing to the infant. The use of a nipple with an apron attachment which partly closes the cleft has also proven unsatisfactory. **It is, however, possible for a baby with a cleft palate to be fed from a bottle with an ordinary nipple almost as quickly and as easily as the normal baby.** This can be accomplished in the following manner: A dental impression is taken of the palate. A cast is then made, and a simple dental plate is accurately constructed. This type of plate is merely a rudimentary splint which may be inserted prior to each feeding. To assure best results the nipple should have three or four holes, each approximately the size of a 23-gauge wire, so that the milk will flow readily as soon as the infant touches the nipple with his tongue. The milk is expressed by mechanical action, and not by suction. Moreover, the infant cannot cup the nipple if harelip is present. This simple device will contribute immeasurably toward the elimination of regurgitation through the nose, and thus prevent many of the troublesome complications which may arise, such as: infection of the nasopharynx, chronic catarrh, involvement of the ears, bronchitis and pneumonia.

From a dental standpoint, it is interesting to note that the formation of the cleft causes a disturbance of the dental lamina, even a split in the tooth germ, so that a supernumerary tooth results; in some instances a tooth may erupt in the cleft itself. The dental arch in cleft palate is generally very irregular, and malocclusion is common. The incisors often are misplaced, invested, or erupted in labioversion. They may be twisted, and the roots are often curved or otherwise deformed.

Congenital Pits and Fistulas of the Lips

Congenital pits occur in the upper and lower lips. They were first described by Demarquay in 1868. Since they secrete mucus, they are spoken of as fistulas. These pits have also been described as recesses and paramedian sinuses.

The etiology of this congenital anomaly is as yet not adequately explained. Huber is quoted by de Nancrede (1912) as believing that a secondary notching occurs during lip development, associated with fixation of the lip epithelium at the site of the base of each fistula. In the upper lip, the fistulas seem to occur at the junction of the globular and maxillary processes (Feurer) or in the middle at the origin of the labial frenum (Lannelongue).

Congenital fistulas of the lower lip are more frequent than those of the upper lip. They may occur unilaterally or bilaterally and present a well marked circular depression on the vermilion border which is rather darker than the lip itself. It is the orifice of a mucous tract which extends down and back into the substance of the lip. The two tracts may diverge laterally and vary in length from 5-25 m.m. Often there is a nipple-like process in the centre of the pit, and this may assume the form of a transverse slit. Mucus is secreted from the openings and some investigators claim that the secretion increases during mastication and in the infant when crying.

Hilgenreimer, surveying 51 cases, demonstrated the histological picture in a section from the lower jaw of a patient with bilateral fistulas of the lip. From the orifice a narrow tract lined by stratified squamous epithelium extended downward to the orbicularis oris muscles. Here a blind cul-de-sac formed into which ducts from adjoining labial glands might lead.

Abnormal Labial Frenum

This condition is included in this paper since some authorities have suggested it as a congenital anomaly depicting the retention of a feature of an early stage of man's development in his evolutionary genesis.

In infants, the abnormal labial frenum extends from the lip toward and over the alveolar ridge forming a raphe that reaches to the palatal papilla. The enlarged frenum prevents the central incisors from coming together in the median line. The result is a diastema between these teeth which

cannot be closed permanently by orthodontic treatment until the frenum is removed.

On microscopic examination, the abnormal frenum is found to be made up of connective tissue. There are no muscle fibres present.

Congenital Anomalies of the Tongue

Aglossia

Aglossia and its modification, Microglossia, are rare congenital anomalies. A case of congenital Aglossia was reported by Lamothe in a normally delivered female child. The absence of the tongue left a large cavity, at the end of which the epiglottis could be seen. At the anterior surface of the epiglottis there was a swelling the size of a pea which was the only indication of the development of the tongue. The oral membrane was retained so that breathing was possible only through the nose. Early feeding had to be given through a tube inserted into the esophagus, as it was impossible to feed the child by mouth until the membrane had been destroyed. The child died from broncho-pneumonia when 25 days old.

Congenital Macroglossia

The cause is generally an overdevelopment of the muscular part of the tongue. Macroglossia is commonly seen in cretinism. The tongue may be so large as to hang out of the mouth; later it may cause deformity of the dental arch and irregular occlusion on account of pressure that is being exerted continuously against the teeth.

Ankyloglossia (Tongue-tie, Adherent Tongue, Lingua Frenata)

The tongue is restrained in its movements by a short frenum. This limitation of the tongue may interfere with nursing of the infant. Later on it may impair speech because the tongue cannot be projected forward against the teeth, anterior palate, or lips.

True Ankyloglossia is rare. If the tongue can be drawn forward over the alveolar border by traction with the fingers, the condition is not true Ankyloglossia. In most instances there is only a retarded development of the frenum which, if left alone, will develop to its normal length later on. Mothers, however, are frequently apprehensive that this condition will result in loss of speech and may urge the physician to divide the frenum. Most authorities will concur that such interference is unnecessary unless true Ankyloglossia is present. In southern European countries it is the custom of midwives to slit the frenum by pinching it between the nails of the thumb and finger. Needless to say, this primitive procedure has resulted in infection and ulceration of the inferior surface of the tongue.

Cleft Tongue (Bifid Tongue)

Cleft tongue is a defect in which a complete cleft or fissure of the tongue is present, running antero-posteriorly from the tip toward the root, and ending some distance in front of the vallate papillae. This congenital malformation is occasionally observed together with developmental malformations of the lips, lower jaw, or palate. Congenital cleft of the tongue does not interfere with speech or with taking food.

Grooved Tongue

Any tongue having on its dorsal surface, in addition to the normal median raphe, congenital folds, cracks, or furrows, is designated as "Grooved Tongue." This condition is present in about .5% of tongues. The furrows may be curved and forked and at times may be rather deep. Grooved tongue does not cause any pain, and its taste and touch sensations are usually normal.

Dental Manifestations of Congenital Syphilis

Congenital Syphilis produces very specific changes in the teeth that are pathognomonic. These are known as Hutchinson's Incisors and the mulberry or bud molar of Pfluger. Deciduous teeth are rarely affected.

The greatest damage to the teeth is done by Syphilis during the second half of intrauterine life and the first month after birth. Pasini concluded that the cause of the dental dystrophy is the virulent action of the specific toxin rather than an indirect trophic action or disturbance of the calcium metabolism produced by Syphilitic affection of the parathyroid glands. Bauer corroborated the findings of Pasini, stating that by his staining methods he found spirochetes in the extensive capillary net of the dental follicle around the enamel organ, which caused extensive hemorrhage into and beneath the enamel epithelium. He concluded that the injury to the odontoblasts and ameloblasts is directly due to the action of the Spirochaeta Pallida. Pfluger examined four stillborn, and six liveborn infants who died, and found more or less definite and conforming changes in the tooth germ. He found characteristic changes in the dentine organs such as endothelial damage and perivascular infiltration which he considered a local reaction to the infection with Spirochetes. The odontoblasts were damaged and calcification was delayed so that the predentine zone became abnormally wide. The enamel organ showed changes only in the older infants who died 4-6 months after birth. In these there was a degeneration of the stellate reticulum as well as of the external enamel epithelium, the intermediate layer, and the ameloblasts. Pfluger contended that these changes were caused indirectly by the action of the surrounding dental follicle which was ex-

panded by reactive changes. These findings gave rise to the theory that the aplasia of the lateral lobes of the incisors and cusps of the molars is due to arrested development caused by the inflammatory processes in the surrounding tissue due, either to trophic effects, or to pressure. Pressure is effective on account of the slow calcification of the predentine and may cause a compression of the molar and the half-moon defect on the cutting edge of the incisors. The pressure also may suppress the development of the lateral lobes of the incisor teeth and thus produce the characteristic barrel or screwdriver shape of the Hutchinson tooth.

Dental malformations were first described by Hutchinson (1887) who looked at the erupted central incisors as "test teeth." The malformation of these teeth has since been spoken of as Hutchinson's Incisors. Pfluger described the deformity of the 1st permanent molar as a "bud molar."

The chief gross abnormality in the Hutchinsonian Incisor is the decrease in size and the underdevelopment of the developmental lobes. As a result, the tooth is narrower at the cutting edge than at the normal sized gingival margin. This gives the tooth a barrel or screwdriver form which prevents proximal contact between the teeth. The developmental lobes at the cutting edge are all undersized and the middle lobe is entirely absent, resulting in a half-moon defect or crescentic notch. This notch presents a dimpling effect which differentiates Hutchinsonian Incisors from teeth with ordinary hypoplasias of the enamel, which occur as dental manifestations of endocrinological disturbances, the common exanthemata, or dietary deficiencies. The bud molar described by Pfluger consists principally in a compression of the cusps which are rolled inward and have the appearance of being clenched. This huddled condition of the cusps practically eliminates the occlusal surface, although the tooth is of normal dimensions at the cervix.

According to Boyle's findings (1932) antisyphilitic treatment, if instituted soon after birth, may benefit odontogenesis. If the teeth erupt, however, minus the effects of antisyphilitic treatment, their objectionable appearance may not be corrected until the late teen age when, by virtue of normal pulp recession, they may be covered with porcelain jacket, or acrylic jacket crowns.

References

Textbooks

Oral Medicine—Lester Burket, Lippincott, 1946.
Textbook of Operative Dentistry—A. D. Black, Medico-Dental Publishing Co., 1938, Vol. 1.
Oral Pathology—R. W. Bunting, Lea and Febiger, 1929.
Biology and Pathology of the Tooth and its Supporting Mechanism, Gottlieb, Orban and Diamond, MacMillan Co. 1938.
Oral Pathology—Kurt Thoma, Mosby, 1941.
Diseases of the Mouth and Their Treatment — Prinz and Greenbaum, Lea and Febiger, 1939.

Journals

Dental Cosmos, 1929—Dorrance, G. M.
Dental Cosmos, 1935—Keeler.
Dental Cosmos, 1931—Bechs.
Dental Cosmos, 1920—Gottlieb.
Journal American Dental Association, 1930—Lyons.
Journal American Dental Association, 1938—Shirazy.
Journal American Dental Association, 1941—Brayer and Blackston.
Journal American Dental Association, 1936—Marshall.
Journal Dental Research, 1932—Idem.
American Journal Orthodontics, 1939—Kelsey.
British Dental Journal, 1926—Down.

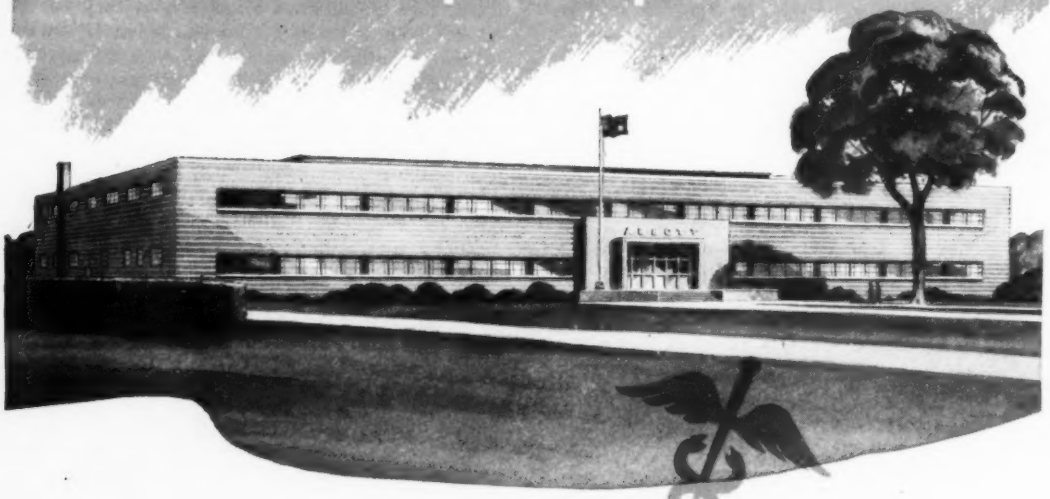
Rh Tests of Premarital Blood

The Rh Laboratory at the Children's Hospital has, since the inception of routine pre-marital Wassermans, done Rh tests on these same blood specimens. This work has been done for our own information as part of our research program. We are receiving many requests from doctors for reports on these specimens, but have not sent them out routinely because we have not had the financial means to do so.

In order to make these reports available and at the same time to further our research work we are prepared to enter into an agreement with any physician to supply these reports to him if he will collect for the test from the engaged couple. It is suggested that this be done at the time the blood is taken for the premarital Wasserman. The single blood specimen is all that is necessary. Mark "For Rh" on the premarital Wasserman label and you will receive both the Wasserman report from the Provincial Laboratory and the Rh report and blood group from the Children's Hospital. The Rh reports will be sent out once a week. The fee for the premarital Rh test will be $3.00 a couple. Physicians requesting this service will be billed once a month on the basis of the number of premarital tests done for them during the month. A note to me will put you on our premarital report service.

Bruce Chown.

your faith in ABBOTT made this plant possible...



ABBOTT'S NEW MONTREAL PLANT

You BUILT it, Doctor... We hope You'll USE it!

Your patronage made this plant possible. Without your cooperation in prescribing and using Abbott products, we could not have taken our present forward step. Your loyalty to us gave us the courage. From this new, up-to-the-minute plant, pharmaceuticals are already speeding to every part of the Dominion. We hope, Doctor, that you will make increasing use of our enlarged and improved facilities.

This new, spacious structure, conveniently located in Montreal, is something more than a building. It is a testimonial to your faith in Abbott, to your preference for Abbott products through the years.

Here is one of the truly fine pharmaceutical laboratories of the American continent. In this new plant we shall continue an old resolve: to give to medical men and to their patients, the best service within our power.

ABBOTT LABORATORIES LIMITED • MONTREAL

Abbott

47-12

"Changing Ideas - Changeless Ideals"

Report of Canadian Medical Association Meeting

Section of Ophthalmology

The first paper by Dr. Robert M. Ramsay reviewed 76 cases of Tributary Retinal Venous Thrombosis. The important etiological role of hypertension and retinal arteriosclerosis was noted. The visual prognosis, life expectancy, complications and therapy were briefly outlined.

The second paper concerned plastic ball and ring implants in cases of Mule's operation after the technique of Cutler. This paper by Dr. J. S. Crawford, of Toronto, was excellently illustrated by a "movie" and the post-operative results were first rate.

The outstanding paper of the meeting was given by Dr. K. B. Johnston, of Montreal. Four cases of congenital toxoplasmosis were presented and illustrated by means of lantern slides. These cases are the first of this disease syndrome to be presented in Canada of which the abstractor is aware. The syndrome consists of a typical central chorioretinitis associated with foci of intracerebral calcification and neutralizing anti-bodies of toxoplasma in the blood serum.

Dr. James McGillivray, of Winnipeg, discussed vertical muscle anomalies in the fourth and last paper. He stressed the fact that such deviations were more common than usually thought. The importance of early recognition with early treatment consisting of refraction and occlusion was noted. At a later stage visual education and surgical procedures may be required to achieve the desired result of binocular normal vision with stereopsis and orthophoria.

Ophthalmology Notes

The Round Table Conference was held June 25, 1947, under the chairmanship of Dr. N. L. Elvin. The subject was "Ocular Injuries," and many interesting facts were brought forth, some of which are as follows:

Dr. E. L. Moyer, of Moose Jaw, while discussing multiple foreign bodies in the cornea advised that only the larger and more deeply situated foreign bodies be removed at the first sitting. He felt that many of the smaller ones would slough away later and by this means trauma to the cornea could be minimized.

Dr. R. O. McDiarmid, of Brandon, discussed alkali and molten metal burns of the external eye. He stressed the necessity of prevention of such injuries and the use of an human amniotic membrane graft to the cornea and conjunctiva after the method of Sorsby & Symons in the case of caustic burns.

Dr. E. A. McCusker, of Regina, advised against the employment of atropine in the early stages of intraocular hemorrhage following injury. In addition to the usual measures of sedation and rest, he felt that repeated paracentesis of the anterior chamber was useful. In cases with recurrent hemorrhage and secondary glaucoma Dr. McCusker prefers a LaGrange type of operation.

Dr. J. T. Cruise, of Winnipeg, discussed intraocular foreign bodies with and without coincident or consecutive retinal separation. He advocated early removal of foreign bodies where the latter are magnetic. In the case of non-magnetic foreign bodies such as pieces of rock or glass, he felt that the eyeball tolerated them rather well and that in some cases it was advisable to leave them in situ. Dr. Cruise felt that retinal separation may be treated with removal of the foreign body at one sitting.

In closing the round table discussion Dr. N. L. Elvin discussed the roentgen-ray localization of intraocular foreign bodies by the old "Sweet" method and the "new closed system" now in vogue at the Winnipeg General Hospital. Dr. Elvin also stressed the necessity of a wide excision of an iris prolapse in cases of perforating corneal lacerations.

Robert M. Ramsay, M.D.,
M.Sc. in Opthalmology.

Section of Medicine

The Management of Peptic Ulcer

Report on Round Table Conference, Canadian Medical Association Meeting, Winnipeg, June 27, 1947

A discussion of this perennially interesting subject was arranged by the Section of Medicine with the following panel of speakers answering a series of questions, either arranged or submitted: Dr. Malcolm Brown, Kingston; Dr. R. F. Farquharson, Toronto; Dr. J. H. Geddes, London; Dr. R. M. MacDonald, Halifax; Dr. M. B. Perrin, Winnipeg; Dr. C. C. Ross, London; Dr. W. Donald Ross, Montreal; Dr. P. H. T. Thorlakson, Winnipeg, and Dr. J. Wendell Macleod, Winnipeg, who was Chairman.

The discussion centred chiefly around the themes of nutrition, the etiological role of psychological factors, and the severing of the vagus nerves. It was pointed out that these topics had dwarfed the old subject of antacids. The latter are of value in controlling symptoms, but do not

dominate the treatment program as they did ten or twenty years years ago. The colloidal gels of aluminum hydroxide and of various trisilicates are preferred. They should be given midway between meals and feedings, rather than immediately after eating. Dr. Geddes and Dr. Brown urged that they be used for at least three months from the beginning of treatment.

Diet and Nutrition

Dr. Farquharson stated that good nutrition was important in ulcer patients just as in all patients with chronic diseases. Many patients with chronic or recurrent peptic ulcer could begin treatment with a bland diet in three moderately sized meals with a snack between meals and at bedtime. Such a patient should avoid raw fruits and vegetables (except orange juice, etc.), pickles, condiments, nuts, fried foods, broths, alcohol, and any obviously irritating foods. He may partake of cereals, preferably cooked with milk or cream; eggs, boiled, poached, or lightly scrambled; stewed fruits, avoiding those with many seeds; bread; butter; milk; soups; roasted or broiled meat, fish, or fowl; potatoes, boiled, roasted, or scalloped; macaroni and spaghetti, etc.; and, after the active stage has passed, tender cooked vegetables, milk puddings, custards, gelatins, jellies, etc. Of the patients in the active stage, a few would be better on well-cooked cereals with cream, milk, or milk and cream mixtures, custards, milk puddings, gelatins, jellies, etc., given in snacks at two-hour intervals. An adequate intake of Vitamin C is essential and the juice of an orange is a suitable source. As regards to the management of the patient in between bouts of ulcer activity, the present trend is to permit a more liberal variety of foods at mealtime, but to insist on the taking of a milk feeding between meals for an indefinite period.

There were several questions concerning the much vaunted amino acid therapy. Professor Farquharson stated that they had no specific value. The ingestion of amino acids was no better than the ingestion of an equal amount of protein in the form of bland foods. Protein will neutralize excess acid as well as amino acids. Patients with ulcer digest proteins and other food perfectly. There have been many instances of new remedies, administered enthusiastically, appearing at first to be the answer, but failing to stand the test of time. It is bad for the ulcer patient to feel that success in treatment depends upon his taking some special medication, especially when it is very expensive. It is much better to give the patient confidence by a proper explanation of the nature of his illness and the generally good results to be obtained by following the standard treatment. He should be allowed to take an ordinary diet of ordinary foods similar to that taken by other members of his family. It is very important that the patient's mind should not dwell all the time on his diet.

Psychological Factors

Diet for the stomach and diet for the mind were quite inseparable, Dr. Brown said. When one gives an ulcer patient either a diet or a medicine, one may be meeting a personality need as well as a purely physical one. Although usually unaware of it, this patient may badly need something to lean on—a diet, a treatment routine, or a person, such as the physician. The nature and implications of this "need for dependency" were gone into at some length by Dr. Donald Ross, Registrar at the Allan Memorial Institute, Montreal, formerly of Winnipeg. He first of all reviewed the mechanism by which emotional factors might influence the development of peptic ulcer. The cerebral cortex is connected with the hypothalamus which in turn has connections with the origin of the vagus nerves in the medulla. Vagal stimulation produces hypermotility and hypersecretion in the stomach, the physiological disturbance encountered in peptic ulcer. The natural stimuli for increased activity in the stomach are, of course, hunger and the presence of food. By means of conditioned reflexes, this particular motor and secretory activity may become linked up with or conditioned to other stimuli, such as a particular emotional state. Gastric activity is first stimulated during the very dependent state of childhood. Later on, should there be increased need for the secure state of being dependent, it is conceivable that conditioned reflexes might produce increased secretory and motor activity in the stomach. By the time adulthood is reached, most individuals have passed from a state of complete dependency to one of interdependency. Some adults, however, try to be completely independent, but there are times when we all have to depend on others to a certain extent, even though we may have others dependent on us. An increased "need to be dependent" is a particular emotional state and one which must be recognized just as clearly as anxiety, anger, disgust, grief, yearning, and so on. This differentiation is important because these emotional states are accompanied by different types of physiological activity. Dr. Ross referred to psychoanalytic studies which showed that, even though some patients might present a conscious striving to be independent and self-sufficient, the development of ulcer symptoms occurred at a time of unconscious need to be looked after, to be secure and passive without struggling to stand alone. It appears that this need develops in different types of person under quite different circumstances. Thumb nail case histories were

presented to show how in apparently opposite personality types, delinquency and alcoholism in one group, anxiety and timidity in another, there could be found a common feature with which ulcer symptoms were associated; namely, an increased need for dependent security.

When asked how far he thought a practitioner or internist could go in evaluating and handling the personality factors contributing to the formation or persistence of ulcer, Dr. Ross replied that, if the doctor is going to be more than an engineer for the bodies of his patients, he must take sufficient personal history to determine the circumstances which produced various emotional stresses in the patient's life, particularly in increasing the need for dependence. If he allows the patient to become temporarily dependent on himself by a sympathetic and interested approach, he may be able to help the patient either to give up the excessively independent protest which is frustrating his need for dependence, or to arrange the environment to obtain socially acceptable means of gratifying his needs. He warned, however, against premature preaching to the patient, based on preconception instead of sympathetic listening. He regretted that there were so few psychiatrists available in Canada whose training and experience had fitted them to deal with the kind of normal individual who gets a peptic ulcer instead of developing a psychosis or psychoneurosis. He agreed with Dr. Brown that the intensive dietary and bed rest regime did much to give the ulcer patient the complete security he needed. He did not agree, however, with someone else who had suggested that the process be carried further by administering the Sippy diet by bottle and nipple, "in view of the great difficulty in weaning!"

In reply to the question: What proportion of cases require more than superficial psychotherapy? Dr. Farquharson stated that he believed there was very seldom need for extreme or difficult psychotherapy. He believed that peptic ulceration came when emotional reaction aggravated a constitutional tendency in the susceptible individual. Doctors helped patients best when they relieved them of their anxiety, and helped them learn a way of living easily. Relief of anxiety was something most doctors could handle easily if they took the time to think about it and would try to understand the patient's troubles. The various views expressed were exceedingly stimulating and the Chairman emphasized the need of preserving an open yet critical mind in connection with the newer psychological theories. The study of ulcer was likely to centre around the study of Man and no one had a better chance to pursue this than the medical practitioner.

Vagotomy

In the past three years, surgical section of the vagus nerves has arisen as a new technique in the handling of refractory duodenal ulcer. This approach is based on a large body of physiological research, much of it carried out by Dr. Lester Dragstedt of the University of Chicago, who may be called also the pioneer in clinical application of bilateral supradiaphragmatic vagotomy. In Canada, during the past year and a half, there has been considerable experience with vagotomy, particularly in London, Ontario, and in Winnipeg Clinicians from these two centres, therefore, were asked to exhibit their results. First of all, Dr. C. C. Ross and Dr. J. H. Geddes discussed the rationale of the operation and indications for its use. Active duodenal ulcer is accompanied almost uniformly by the secretion of an increased volume of gastric juice, which continues long after the normal stimuli have ceased to act; for example, the secretion collected by an indwelling, overnight tube is usually three or four times that of the normal individual. Moreover, the increased muscle tonus may interfere with the stomach's ability to handle this increased amount of highly acid gastric juice, possibly by virtue of reduction of alkaline duodenal contents. In any case, this mechanism of muscle hypertonus and hypersecretion is conceived to depend upon increased or prolonged stimulation by some influence in the central nervous system, through the medium of the vagus nerves. Following complete division of these nerves, there is an immediate decrease in the volume and acid titre of the gastric secretion. At the same time, the stomach and duodenum exhibit a marked loss of tonus and motility. Ulcer pain is present preoperatively, disappears at once, and there is usually x-ray evidence of ulcer healing within two to three months. The operation has been carried out chiefly in patients with chronic duodenal or jejunal ulcer who had failed on adequate medical treatment.

Dr. Ross reported on a series of thirty-two cases, all done at the D.V.A. Hospital in London, Ontario. They were men ranging in age from twenty-two to seventy-two years. The results were considered to have been reasonably good, although they had been followed for only a year. A questionnaire was sent to some fifty cases treated by vagotomy in the London area. The majority of these were veterans or pension patients and, consequently, their replies should be appraised in that light. Of the twenty-eight patients who replied, twenty-one stated that they were feeling "good" or "better." Thirteen said they could eat anything or everything. Twenty-seven of them continued to smoke and fourteen con-

tinued to drink. Sixteen replied that they had had no ulcer symptoms whatever. Others described complaints which were digestive in character, but did not suggest ulcer recurrence. Over fifty per cent of them complained of some post-operative bloating and one-third of them had had some degree of diarrhea. Most of the patients had returned to work.

Dr. Perrin spoke of a similar series of forty-nine patients whom he and his colleagues had operated upon since May, 1946. All of them obtained immediate relief of pain. However, there were six patients who had recurrent ulcer symptoms, or were otherwise unwell. It was thought that in most of these there had been incomplete section of the vagus trunks. Two patients in particular were probably not psychologically prepared for operation and had complicated psychoneurotic problems. In the thirty-nine cases done up to February 8th, 1947, thirty-three had been transthoracic and six subdiaphragmatic vagotomies. Three of the cases were for jejunal ulcer, all of them healing immediately. Three patients had a troublesome degree of gastric dilatation, but no patient has required a subsequent gastroenterostomy. It is felt that this can be avoided if careful selection of cases is made beforehand. There is no place for transthoracic vagotomy in the presence of even slight degrees of pyloric stenosis. Five patients had difficulty in swallowing, one of them needing dilatation with the oesophagoscope. Of the thirty-three cases operated upon by the thoracic route, seven required aspiration of fluid during the post-operative course. In no case has there been any serious or prolonged pulmonary complication. Chest pain, however, has been a problem in both the Winnipeg and London groups. Latterly, there has been success in avoiding this in certain cases by separating the ribs rather than resecting one of them. As in the American reports, the Canadian experience also suggests that gastric motility and tonus tends to return to normal in from six to nine months. It is likely also that in many cases gastric secretion approaches normal levels. However, in no instance in which the insulin hypoglycemia test suggests a complete division of both nerves has there been any return of the abnormally highly acid and voluminous secretion encountered in the active phase of duodenal ulcer. Whether this will hold true for years and decades remains to be seen.

One is interested in possibly late effects of vagotomy on hepatic and pancreatic function and on metabolic processes in general. Dr. Robert MacDonald, of Halifax, who has spent the past year with Dr. Ingelfinger in Boston, referred to a number of total gastrectomies carried out five to ten years ago, with or without removal of a portion of the oesophagus. In these it was likely that the vagus nerve supply to the abdominal viscera had been interrupted. Nevertheless, a careful scrutiny by all available tests revealed no change whatever in these functions.

Several speakers stressed the view that it was seldom permissible to treat the gastric ulcer by nerve section, particularly by the supradiaphragmatic route. The ulcer in the stomach is so easily confused with malignant disease that failure to respond immediately to scrupulously controlled medical treatment should constitute an indication for partial or subtotal gastric resection. If on direct inspection the ulcer appears with certainty to be benign, it may be that smaller resections, or even excision, may be feasible when combined with subdiaphragmatic vagotomy.

Will vagotomy or vagotomy plus gastroenterostomy replace completely the operation of gastric resection for duodenal ulcer? It was impossible to answer this at present, Dr. Thorlakson said. "Those of us who have gone through the various stages of surgical therapy during the past twenty years can hardly feel justified in adopting too dogmatic an attitude towards the operation of vagotomy. During this period, we have gone through the gastro-enterostomy phase; the excision of the anterior two-thirds of the pyloric ring with the ulcer, followed by the pyloroplasty of Judd; then for a twelve-year period the three-quarters or subtotal resection was performed for intractable duodenal ulcer and now we have vagotomy with or without gastro-enterostomy. Certainly, during the last year, since doing vagotomy for intractable duodenal ulcer, I have not found it necessary to do a gastric resection. . . . While a gastric resection has proved to be a very satisfactory operation, it is not without its dangers and unpleasant sequelae such as dumping syndrome and stoma ulcer. In over fifty cases, the mortality from vagotomy has been nil which is, of course, an important consideration from the patient's standpoint. . . . The only really worrisome complication is gastric retention which seems to clear up in time or can be prevented by gastro-enterostomy."

In closing the Conference, it was pointed out by the Chairman that the final solution of the ulcer problem was still forthcoming. One thing was clear—the successful management of the ulcer patient involved much more than the healing of the mucosal defect; it called for an adjustment of the patient to his environment and to his fears and hopes, past, present and future. The most successful treatment will be directed towards the patient as a person.

J. W. M.

The Role of Proteins in the Management of Diabetes

The first paper was a presentation by Dr. A. Hollenberg on "The role of Proteins in the Management of Diabetes." Dr. Hollenberg had noted that diabetic patients who developed coronary occlusion and were treated with dicoumarin showed an increase in the severity of their retinitis. This led to an investigation of the blood proteins in these cases. It was found that the decrease in prothrombin and in total protein paralleled the severity of retinitis, in diabetics who had retinitis but no other obvious complicating factors. This group was mainly in the older age bracket.

A group of these patients was treated with high protein intake, and parenteral vitamin K, and in some cases, small blood transfusions. Improvement in the retinitis was dramatic. A control group was followed for weeks and even months and did not show a comparable improvement, until they too, were placed on the same regime. Dr. Hollenberg concluded that diabetic retinitis was a manifestation of liver incompetence. When the physician uses dicoumarin in diabetic patients with coronary occlusion he must take the responsibility for producing liver damage by this substance, and hence run the risk of producing complications. (No evidence was presented to demonstrate that dicoumarin produces liver damage).

Dr. Perry McCullagh, of Cleveland, a classmate of Dr. Hollenberg's who was present at the meeting was asked to comment. He confirmed the essential findings as reported, which he had found in an investigation of 166 cases of diabetic retinitis. He felt that diabetic retinitis is part of the disease and not a complication. The total protein might be normal in these patients, but the albumin fraction is diminished, and the deficit is made up by an increase in beta and gamma globulin. They had increased the daily protein intake to more than three grams of protein per kilogram of body weight, if necessary. They had not established the value of vitamin K in this disorder.

Dr. Hollenberg said that investigations were being undertaken on the effect of Rutin on the petechiae and retinal hemorrhages in these patients.

Treatment of Peptic Ulcer

Dr. A. H. Gordon presented a paper on the "Treatment of Peptic Ulcer." As he said in his introduction there was little new and nothing original in his presentation. The paper was an interesting outline of the changing incidence and distribution, both in the sexes and in anatomical situation, of ulcers during the past century. He presented three cases to illustrate the vagaries of the disease, and the unpredictability of response to treatment which is occasionally encountered.

His conclusion was that the answer to the ulcer problem is still an unsolved mystery.

Obscure Causes of Heart Failure

"Obscure causes of Heart Failure" was the title of a paper by Dr. Gerard Allison. He pointed out that at the first visit to a patient in failure, the cause may be obscure, but that from the history, physical examination of fundi, heart, etc., and electrocardiograms, the underlying cause usually is soon apparent. However, there are some obscure causes which are not infrequently missed. A brief discussion of several of these was undertaken.

Painless coronary occlusion, especially in the elderly patients, was often labelled "Arteriosclerotic heart disease." The electrocardiogram usually disclosed these cases for what they are. The sedimentation rate is not of help in congestive failure, often, because passive congestion of the liver results in a failure of increase in the rate where it usually would increase.

Hyperthyroidism was another cause, and should be suspected in any case of auricular fibrillation. The appearance of the patient, especially a certain "brightness" of their eyes is often a useful clue.

In Myxedema cardiac failure may occur. The clinical findings, plus a low voltage electrocardiogram, and raised blood cholesterol are helpful in confirming the impression. These should be treated initially with very small doses (one-twentieth of a grain a day) of thyroid, and this slowly increased.

Beriberi heart, or congestive failure associated with vitamine B deficiency is occasionally encountered as an obscure cause of failure. The history of inadequate diet is important in determining the etiological agent, especially a history of alcoholic anorexia, dietary fads, etc. Many of these cases respond well to adequate vitamine and dietary treatment.

Chronic constrictive pericarditis is another unusual cause of failure, that is occasionally missed.

Paroxysmal auricular fibrillation is rarely a cause of failure in the normal adult heart, but in infants does produce failure. Cyanosis, vomiting, engorged neck veins and engorged liver are found, with rapid pulse. Edema is rarely seen. Digitalis is the treatment.

Other obscure causes such as Fiedler's myocarditis, and primary systemic amyloidosis were

mentioned but not discussed. Some illustrative case histories were given.

Enigmatic Anemias

In his paper on "Enigmatic anemias" Dr. William Magner pointed out that the routine blood examination would classify anemias into the three anatomical groups: macrocytic, normocytic and microcytic. Investigation would enable an etiological classification to be determined in most cases, but occasional ones defy all attempts to determine their origin.

Hypochromic anemias point to iron deficiency as the underlying cause, and usually this is due to blood loss. Macrocytic ones indicate that there is some disturbance in the formation, absorption, or utilization of the liver principle, and direct attention towards certain types of investigation.

The normocytic anemias are the ones which often present a problem. Chronic nitrogen retention is a common cause, the anemia paralleling the degree of nitrogen retention. Certain infectious processes such as syphilis and subacute bacterial endocarditis are also causes. Hypothyroidism, and other causes may be found on investigation.

In carcinomatosis with metastases to bone marrow, or involvement of marrow in myeloma, myelosclerosis, Hodgkin's disease, xanthomatoses, and other processes the finding of immature white and red cells in the presence of a comparatively mild anemia are findings of diagnostic importance.

True idiopathic aplastic anemia is rare. Pseudoaplastic anemia with full marrows are probably maturation defects. The cells here may be macrocytic.

The anemias associated with splenomegaly form an interesting group, and are often diagnostic problems. A great many sub-groups have been described here, and sometimes when a cause such as leucemia, polycythemia vera, liver cirrhosis, etc., are not apparent detailed investigation may be required to classify the disease.

Dr. Magner concluded by noting that hematology is not an independent science but is part of general medicine, where many branches meet.

Deer Lodge Scientific Exhibition

As a dearth of scientific exhibit was a notable feature of the convention, it was disappointing that so few managed to see the display at Deer Lodge Hospital. It would seem that the distance of the exhibit from the main site of activity was an obstacle that was the major factor.

Dr. H. Williams had drawn from his extensive collection of parasites, both exotic and indigenous and gross and microscopic specimens were on view, with a brief summary of the essential features of each parasite.

A dermatological exhibit of photographs, cultures and clinical summaries of fungus infections was interestingly displayed. A film on "scabies" was also shown.

X-ray display showing the repair of bone defects had been set up by the orthopedic surgery department and received very favorable comment from those who saw it.

In addition there was exhibited material, photographs and equipment in use by the physiotherapy department, and also Occupational therapy. A display demonstrating rehabilitation of the paraplegic was also present, and a film in technicolor on the same subject.

P. T. Green.

Bronchoscopy and Bronchial Asthma

Now that the bronchoscope has graduated from the formidable weapon of the past, to the present status of a speculum for respiratory diseases, we should assess the current advantages. Indeed, bronchoscopy under local anaesthesia is now an everyday office procedure with practically no contra-indications.

Nothing original is claimed for the observations in this paper, but they are based on the personal examination of over three thousand cases. In this series slightly under twenty per cent were cases of bronchial asthma, or cases that were or could easily have been mistaken for asthma.

For practical purposes the material will be presented under three headings:

1. Findings suggesting the presence of allergy.
2. Findings of non-allergic conditions that may simulate allergy clinically.
3. Bronchoscopic aids to treatment.

1. Findings Suggesting the Presence of Allergy:

Certain changes in the tracheobronchial tree strongly suggest the presence of an allergic factor.

Perhaps the most characteristic changes are seen in the bronchi themselves. Normally, there is some flattening of the posterior wall, especially on forced expiration or on cough. This change is more marked in young children normally. In bronchial asthma these bronchi become extremely labile. The posterior wall bulges forward with each expiration leaving a crescent-shaped lumen. These bronchi even appear to close during cough. After observing these changes, one can easily account for dyspnoea on exertion or following a paroxysm of coughing. Certain changes may also be present in the bronchial mucosa. While it is important to remember that normal membrane does not rule out allergy, some demonstrable changes are frequently present. These changes vary from a thin, pale, dryish-looking membrane

Summary of paper presented at annual meeting of the Canadian Society for the study of Allergy.

that takes on a bluish tinge at times, to thick boggy membrane that obscures the tracheal rings, thickens the carinae and almost obscures the airway. This membrane bears some resemblance to the turbinates in hay fever. The presence of red, patchy or streaked membrane indicates infection rather than allergy.

The type of secretion present may suggest allergy. During the early phase of an attack, or between attacks, the secretion is usually scanty and mucoid. It tends to be very viscous, and at times even gelatinous or fibrinous. Later in the attack the secretion is more profuse and may be mucopurulent. Examination of the secretion may reveal eosinophiles, spirals, or crystals.

Very rarely direct testing on the bronchial mucosa may be carried out.

Many cases thought to be bronchitis, pertussis, or foreign body, are found on bronchoscopic examination to be allergic. In several cases we have been able to forecast bronchial asthma before the first classical attack occurred.

Just as important as diagnosing asthma is the finding of some other condition that has been mistaken for asthma. Almost any disease of the respiratory tract may at times simulate bronchial asthma. Among the conditions seen in our bronchoscopic clinic that were sent in as bronchial asthma, are adenocarcinoma of the trachea, mucus-cell adenoma in the trachea, bronchogenic carcinoma, enlarged mediastinal lymph glands, distortion of tracheo-bronchial tree from fibrosis, stricture in main bronchi, chicken-bone in the larynx, papillomata of larynx, celluloid in trachea, and various foreign bodies in larynx, trachea or bronchi. Lung stones on two occasions produced a wheeze.

Laryngeal dyspnoea to the uninitiated may be mistaken for asthma until endoscopic examination is made.

Many patients only have troublesome asthma during an intercurrent infection. The degree of sepsis is indicated by the type of membrane and secretion.

Treatment is aided mainly by establishing or corroborating a definite diagnosis. By diagnosing or ruling out any complication or associated condition, treatment can be more accurate and scientific.

The principal benefit from active bronchoscopic treatment is from the removal of thick, viscid secretion. This often affords marked symptomatic relief and is lifesaving in some cases of severe status asthmaticus and severe asthma where atelectasis or massive collapse are developing. The routine use of bronchoscopy in status asthmaticus, I believe, is not indicated, but in properly selected cases is well worth while. Atypical cases seem to respond better than typical cases to bronchoscopic aspiration.

Associated conditions such as foreign bodies, strictures, et cetera, can be handled by bronchoscopy.

Secretion removed through a sterile tube can be used for the preparation of vaccines or bacteriophage as well as for examination for eosinophiles, organisms, polymorphonuclear cells, crystals, et cetera.

The occasional case seems to benefit from cauterizing sensitive areas of mucosa in the region of the main carina.

It is hoped this brief summary will be of some aid to the allergist working in conjunction with an endoscopist, and that the possibilities of endoscopy will be more fully understood by the profession as a whole.

D. S. McEwan.

Third Annual Meeting of the Canadian Society of Allergists

The Society met in the Royal Alexandra Hotel, Tuesday, June 24, 1947, just prior to the annual meeting of the Canadian Medical Association. The scientific part of the program was open to the profession at large and a very satisfactory attendance of more than seventy was present.

The Canadian Society of Allergists was formed three years ago at the time of the Montreal meeting of the Canadian Medical Association under the Chairmanship of Dr. H. K. Detweiler, of Toronto. Its membership is limited to those who are devoting a large proportion of their time to the practice and study of allergy in Canada. Many of the members are Internists and the membership also includes Paediatricians and Dermatologists. Dr. I. H. Erb, of Toronto, was elected President for the year 1947-48, succeeding Dr. C. H. A. Walton, of Winnipeg.

The scientific program was varied. The morning session was devoted to a round table discussion of "Bronchial Asthma in Adults and Children" and many practical and interesting problems of this disease were discussed. In the discussion it was stressed that the new anti-histamine drugs had little, if any, benefit in the management of asthma. Emphasis was also laid on the necessity of accurate diagnosis and meticulous attention to the details of treatment.

The afternoon session had a good variety of scientific papers. Dr. Bram Rose, of Montreal, outlined the present conception of the role of histamine in allergic phenomena and the current investigations that are going on. He was followed by Dr. A. T. Henderson, of Montreal, who discussed some of the uses of the anti-histamine drugs and his experience with them with particular emphasis

on the use of Pyribenzamine. These two papers were discussed most interestingly by Dr. C. F. Code, of Rochester, Minnesota, who discussed some of the pharmacological and physiological problems arising from the introduction of the anti-histamine drugs.

Dr. S. D. McEwen, of Winnipeg, gave a most interesting account of the use of bronchoscopy in bronchial asthma. He emphasized the importance of the procedure in differential diagnosis and its occasional value as a therapeutic measure.

Dr. J. R. Ross, of Toronto, presented an original report of the use of slowly absorbed pollen extract in the treatment of hay fever in children. It was his feeling, and the experience of many others, that the usual aqueous extracts of pollen often presented difficulties in treatment because of their too rapid absorption. He developed a Polyvinyl alcohol as a menstruum for pollen extracts. These alcohols being colloidal permit a slower absorption of the extract so that larger doses could be used and the risk of general reactions greatly minimized. Dr. Ross' work has great promise and it is possible that his method will achieve wider recognition.

Dr. K. A. Baird, of Saint John, New Brunswick, discussed the role of bacteria in allergy and of allergy to bacteria and gave an outline of his experience in a number of clinical cases.

The program was completed by the presentation of a very interesting pathological study of two cases of periarteritis nodosa by Dr. I. H. Erb, of Toronto, and of some of his experimental studies in this field.

The program as a whole seemed to be enjoyed by those present and it was of value in bringing the problems of allergy to the attention of physicians in general. Allergic manifestations are common and it is one of the aims of the Canadian Society of Allergists to assist in the wider diffusion of knowledge of clinical allergy. The Society intends to hold its annual meetings just prior to each future meeting of the Canadian Medical Association so that the members of the Canadian Medical Association may attend the scientific session if they so desire.

C. H. A. Walton.

Obstetrics and Gynecology

The papers and round table conferences in Obstetrics and Gynecology presented at the annual meeting of the Canadian Medical Association were very well received by the members at large. The subjects presented were obviously carefully prepared, and as a result were very interesting and highly instructive.

On Cesarean Section—Feto-pelvic disproportion was the commonest indication for operation. Placenta Previa and diabetes were also regarded as important indications for Cesarean Section. Insofar as severe pre-eclampsia or developed cases of eclampsia were concerned, it was generally felt that there was no place for Section in these cases. In the discussion that followed, the question of "once a Cesarean always a Cesarean" arose. Several speakers supported this view, because of the reported increasing incidence of rupture during labour of a previous Cesarean scar. It was stressed, however, that this was still an open question, and further evidence would have to be gathered before a definite opinion could be stated. Insofar as the type of section—upper segment versus lower segment—it was generally agreed that the lower segment operation was the one of choice, except perhaps in the case of placenta previa.

On Endocrine Problems—Once again the importance of a correct diagnosis was stressed. Irregular bleeding, especially between the ages of 35-50 was too often lumped under the title of functional bleeding. Either male or female hormones were given indiscriminately, whereas a careful examination might reveal either benign, or, more especially malignant disease of the genital tract. The importance of a diagnostic curettage and biopsy of the cervix was stressed.

Diabetics in Pregnancy — Figures were presented showing the greater incidence of toxemia and of large babies in diabetics. Constant prenatal supervision and even hospitalization every two months were considered necessary in order to maintain full control, and avoid hyper or hypoglycemia. The use of oestrogenic hormones was stressed and data was given to show that the incidence of toxemia was definitely decreased in those patients receiving hormonal therapy. The dosage was empirical, and as yet no assays were done to determine the exact amounts to be given.

On the differential diagnosis of Chronic Low Abdominal pain, there was a review of one hundred consecutive patients in whom this was the major complaint. The paper dealt with the usual causes such as tubal infection, endometriosis, and some cases of prolapse. Particularly stressed was the condition of para-metritis—that chronic infection arising often from the diseased cervix, usually following childbirth, wherein the supporting fibrous tissues around the uterus become infected and fibrosed, this eventually leading to pain.

On Prolapse—The anatomy of prolapse and its treatment was discussed. The value of the Inter-position operation was discussed, especially in cases of marked cystocele. The operative technique, and the importance of amputating the cervix was described, and slides were shown. It was pointed out, however, that in cases where

the inter position operation was the one of choice, one must be absolutely certain that the uterus was clear of any disease.

On Conduct of Trial of Labour—The indications and reasons for such a course were outlined and the conduct of the trial was described. The importance of this procedure was especially stressed in all of those cases of borderline feto-pelvic disproportion, in which there was doubt as to whether the fetal head would pass through the inlet or not. The importance of, and necessity for, vaginal examination was stressed. It was pointed out that, if a trial labour was properly conducted, then the incidence of post partum morbidity is not appreciably increased if a lower segment Cesarean has to be done.

On the Treatment of Dysmenorrhoea—A resume of the accepted methods was given. Hormonal therapy, in the speakers experience, was disappointing. The value of parental co-operation, healthy environment, and a strict regime were stressed.

R. L.

Book Review

An Atlas of Haematology

A book which professes to meet the needs of two groups of readers frequently satisfies neither, but here is a volume which addresses itself to three groups and, will, I believe, greatly satisfy all three. The author requires no introduction. He is recognized as a leading haematologist and his text book on Diseases Of the Blood is well and favorably known.

This volume has much to recommend it. It is of satisfactory size (6 inches by 9 inches) of satisfactory bulk (200 pages), is copiously illustrated (35 full page plates, 32 of them in color), the clear type, two column page, and distinct headings make reading comfortable while the author's style makes it easy.

The book begins with fifteen pages of definitions. This saves much explanation later and assures the reader of the exact significance of haematological terminology. The origin and development of blood cells and the morphology of each individual type of cell are set forth clearly. The letter-press gives all essential data of laboratory and clinical significance and the color plates illustrate the appearance of the cells under the microscope. To make the plates more instructive each is faced by a diagrammatic duplicate on which the characteristic features are noted. Special chapters are devoted to myeloblasts and myelocytes, to lymphocytes and monocytes, and to the red cells. Then follows a chapter on the hematological standards and chemical constituents of the normal blood.

Abnormalities of the white cells are considered under the headings of Leucocytosis and Leucopenia and in a later chapter headed The Leukaemias. In each case the pathogenesis and significance of the blood changes are discussed with sufficient fullness. The plates are very good and the accompanying diagrammatic explanations are very helpful. All of the usual and some of the less usual blood pictures are illustrated.

Four chapters are devoted to the anaemias. These are headed "Iron Deficiency Anaemia," "Hemolytic Anaemia," "Anaemias of Marrow Damage" and "Macrocytic Anaemias." In each instance pathogenesis, and laboratory recognition are given fully while clinical and therapeutic data are mentioned briefly. All are well illustrated on color plates.

There are chapters on Infectious Mononucleosis, the Haemorrhagic Diseases, the Bone Marrow, Blood Parasites and Miscellaneous Diseases of the Blood which include Hodgkin's Disease, Polycythemia Vera, Erythroblastosis, etc.

Two chapters are of especial interest to the technician. One deals with blood pictures in laboratory animals and the other goes very fully into haematological technique. Finally there is a summary of blood findings in various diseases and conditions.

As mentioned above this book is designed to assist students, practitioners and technicians. It should be found useful by all members of these groups. With it by him the student will find blood smears easier to interpret. The practitioner who prefers to examine his own smears or who is anxious to have a concise work on hand will find here an ideal aid. For the technician also the book should be most helpful because of its wealth of illustration and conciseness of text.

Color Atlas of Hematology with brief clinical descriptions of various diseases. By Roy R. Kracke, M.D., Dean and Professor of Clinical Medicine Medical College Alabama, Birmingham, Alabama.

For Medical Students, Laboratory Technicians and General Practitioners of Medicine, with Clinical and Hematological descriptions of Blood Diseases, Including a Section on Technic and a Summary of Blood Findings in Various Diseases. Illustrated with 32 plates in full color and 3 plates in black and white. Montreal, J. B. Lippincott, $5.00.

J. C. H.

When they run to you for relief...

Hay fever's moist and swollen discomforts respond promptly to Neo-Synephrine ... the familiar ¼ per cent for nasal decongestion ... the ⅛ per cent ophthalmic for excessive lacrimation, itching, burning and palpebral edema. Repeated doses are uniformly effective and virtually free of rebound congestion.

Neo-Synephrine

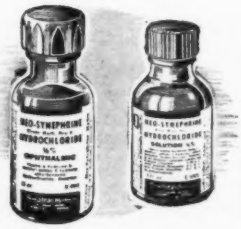
HYDROCHLORIDE

Brand of Phenylephrine (Laevo • d,l • Hydroxy • β • Methylamino • 3 • Hydroxy • Ethylbenzene) Hydrochloride

For Hay Fever Relief

THERAPEUTIC APPRAISAL: Quick-acting, long-lasting ... nasal decongestion without appreciable compensatory recongestion; virtual freedom from local and systemic side effects; sustained effectiveness upon repeated use; isotonic to avoid irritation.

INDICATED for relief of nasal and ophthalmic discomfort in allergic rhinitis, sinusitis, and the common cold.



ADMINISTRATION: By dropper, spray or tampon for intranasal use; by dropper ... 2 or 3 drops ... in the eye.

SUPPLIED: *For Intranasal Use*—¼% and 1% in saline solution, bottles of 1 fl. oz. ½% jelly in convenient applicator tubes.

For Ophthalmic Use—⅛% in a special low-surface-tension aqueous vehicle*, bottles of 15 cc.

Trial Supplies Upon Request

Frederick Stearns & Company

of Canada, Ltd.

WINDSOR • ONTARIO

NEW YORK KANSAS CITY SAN FRANCISCO DETROIT SYDNEY, AUSTRALIA AUCKLAND, NEW ZEALAND

*Contains Aerosol OT 100 (dioctyl ester of sodium sulfosuccinate) 0.001%.

Neo-Synephrine Trade Mark Regd.

S-136D

The other factors are important, too

The superior results obtained from natural vitamin B-complex therapy, are due to the combined effect of many components, some well known and others as yet unidentified.

The increasing preference for natural vitamin B-complex therapy parallels the growing concept that B-vitamin deficiencies are usually multiple.

B-PLEX Wyeth is an aqueous extract of rice bran—one of nature's richest sources of the B-Complex—Biologically Balanced[1] by the addition of crystalline B Factors. B-PLEX supplies thiamine hydrochloride, riboflavin and niacin in the ratio of 1:2:10[2] PLUS adequate amounts of pyridoxine, pantothenate acid PLUS the unidentified factors naturally present in rice bran extract.

[1]The evaluation of Preparations of the vitamin B-Complex. C.M.A.J. May, 1942.

[2]Council on Pharmacy and Chemistry and Council on Foods and Nutrition. J.A.M.A. 119-12-948.

Trade Mark Reg. in Canada

JOHN WYETH & BROTHER (CANADA) LIMITED • WALKERVILLE, ONTARIO

SQUIBB

Crystalline Penicillin G

SODIUM

VIALS (*for aqueous solution*)

The presence of a buffer (4 to 5% sodium citrate) makes SQUIBB Crystalline Penicillin G Sodium *considerably more stable in solution* than unbuffered solutions of crystalline penicillin G sodium.

In diaphragm-capped vials of 100,000 and 200,000 units.

OIL AND WAX

SQUIBB Crystalline Penicillin G Sodium in Oil and Wax has improved physical characteristics permitting easier administration . . . and provides prolonged action penicillin in double-cell cartridges. One cell contains 300,000 units of penicillin in refined peanut oil with 4.8% bleached beeswax. The other cell contains sterile aspirating test solution to guard against accidental intravenous injection.

300,000 units in 1 cc. double-cell cartridges in B-D disposable syringes, or for use with B-D* permanent syringe.*

Also in 10 cc. vials, 300,000 units per cc.

TABLETS

SQUIBB Tablets Crystalline Penicillin G Sodium (Buffered) are *individually* and *hermetically* sealed in aluminum foil to protect them from penicillin-destroying moisture. For high oral dosage.

50,000 units per tablet, boxes of 12 and 100.
100,000 units per tablet, boxes of 12 and 100.

All these dosage forms of SQUIBB Crystalline Penicillin G Sodium may be stored at room temperature. Refrigeration of aqueous solution is necessary.

*T. M. Reg. Becton, Dickinson & Co.

℞

Specify . . . SQUIBB CRYSTALLINE PENICILLIN G SODIUM

For Literature write

E. R. SQUIBB & SONS OF CANADA LIMITED
36-48 CALEDONIA ROAD, TORONTO

7A-47

EDITORIAL

J. C. Hossack, M.D., C.M. (Man.), Editor

The Convention was held at an inconvenient time from the stand point of reporting its proceedings in the July Review. Now what we have to say may seem a little out of date. Those who attended were well satisfied with what they saw and heard. Those who were not present will read the papers they did not have the opportunity to hear and in this issue will find some comments on matters of importance.

With Dr. McGuinness as our president it was natural to think of the Convention in obstetrical terms. It was indeed a sort of mass parturition. Ideas conceived months before in the minds of those who spoke, then saw the end of their gestation and one by one the deliveries were accomplished with ease on the part of those in labour, and with comfort on the part of those who witnessed the proceedings. But, indeed, how could it have been otherwise when it all happened under the watchful eye of an eminent accoucheur?

One of the most noteworthy of the proceedings was the birth of the Canadian Heart Association. A score or so of doctors whose interest lies chiefly or largely in the heart met to implement a plan of organizing an Association for the study of heart disease. Dr. John McEachern was temporary chairman and Dr. Segal, of Montreal, read the Constitution. A list of offices was proposed and the business over, Professor McMichael, of London, spoke on Arteriovenous Aneurysms.

Professor McMichael is a Scot who, like so many of his fellow-countrymen, found fame and distinction in England. He spoke with that modesty and simplicity which are the distinguishing characteristics of those who speak with authority and not as the scribes.

We had occasion to hear Professor McMichael the following day when he gave the Osler Lecture. He spoke on Medical Education as Osler would have it conducted and showed how sound were the ideas advanced by the Master. The speaker, who has in him the Spirit of Osler, stressed the need to arouse and encourage that divine curiosity that leads to new knowledge. Education should in reality be a drawing-out of the student's powers. Too often the ability to recall the orthodox answer is accepted, for both lower and higher qualifications, as the standard of efficiency. Adherence to authority may retard rather than advance the progress of medicine. He would restrict higher qualifications to those who had proved their worth by what they had done rather than to that small percentage of candidates whose memories held the answers to the examiners' questions.

The Medical History Sectional meeting was attended by the usual few. The papers deserved a larger audience for there was nothing dry-as dust about them. The topics were all Canadian. There was active discussion of every paper and, all in all, it was a very successful affair.

Not the least interesting part of the Convention was the Art Exhibit. Only twenty-seven artists exhibited in Fine Art. A larger number entered photographs. I had the opportunity to enjoy a pleasant conversation with Dr. Harvey Agnew who is an accomplished artist and who is President of the American Physician's Art Association. He is an enthusiastic advocate of Art as a Hobby and, indeed, so is everyone who has learned to apply color in a realistic manner. There were only twenty-seven doctor artists represented but there must be two or three times as many more who amuse themselves with pen and brush. Indeed I know more than one doctor who carves or weaves or fabricates or paints who was not represented at the Exhibition. After seeing what their colleagues could do they may be inspired to show their own work next year. Dr. Agnew hopes so.

The Physician's Handbook

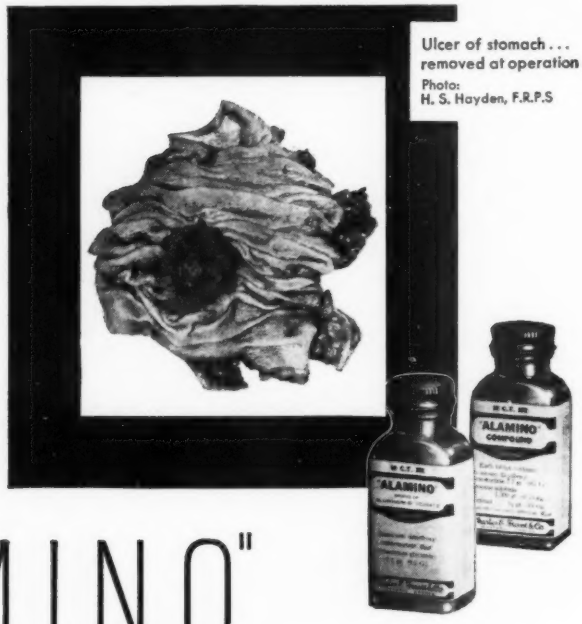
In the June issue we reviewed a most useful vade mecum called the **Physician's Handbook.** It contains an abundance of information on matters of daily importance, which information, however, is seldom available when most needed. We gave the size of the book—pocket size, the number of pages—282, and the price, $1.50, but we omitted to give the publisher's name and address. So many readers have asked for these details that here they are: University Medical Publishers, P.O. Box 5067, Chicago, Ill., U.S.A.

Science Today is a small pamphlet which is published in London by Weekly Science Newsletter Ltd. Its purpose is to provide weekly a brief, but accurate, survey of contemporary advances in all branches of science. Subjects which have so far been covered include the following:

New Law of Magnetism, Thorium and Atomic Energy, Research Uses of Rockets, Electronic Calculators, Artificial Rain, Cosmic Radiation, Growth-Control in Plants, The Chemistry of Bacteria, Thirty Million Volt X-rays, Radioactivity and Research, the Structure of Protein, Air Navigation Progress, Locust Control, New Chemical Elements, Antarctic Exploration, Future of Radar Techniques, Mountain Building, Reflecting Microscopes.

The publishers are Weekly Science Newsletter Ltd., 104 Clifton Hill, London, N.W.8, and the subscription rates are £1.10 ($6.06) for a year or 15/6 ($3.33) for six months.

For the Treatment of
HYPERACIDITY
and
PEPTIC ULCER



Ulcer of stomach . . . removed at operation
Photo:
H. S. Hayden, F.R.P.S

"ALAMINO"

Alamino was developed by Krantz, Kibler and Bell. They found that an aluminum salt of an amino acid such as glycine provided a dual effect: an immediate combination with acid by the amino group of the amino acid and a secondary prolonged buffering action by the decomposition of the aluminum salt, the hydrogen ion concentration of the gastro-intestinal contents being thus stabilized between pH 4 and 5. Proof of effectiveness of Alamino has been established by both pharmacological and clinical tests in Canada and United States.

5 ADVANTAGES

1. Rapid therapeutic action, prompt relief of pain in uncomplicated peptic ulcer cases.
2. Prolonged antacid action without danger of alkalosis.
3. High acid-buffer capacity with minimum aluminum content (40% less than dried aluminum hydroxide) made possible by its unique chemical combination with glycine.
4. Rapid disintegration with immediate dispersion in the stomach contents.
5. Small, pleasant-tasting tablets which need not be chewed before swallowing.

"ALAMINO"
(C.T. No. 381 Frosst)
Each tablet contains:
Aluminum glycinate (basic) 7.7 gr. (0.5 G.)

"ALAMINO" COMPOUND
(C.T. No. 382 Frosst)
Each tablet contains:
Aluminum glycinate (basic) 7.7 gr. (0.5 G.)
Atropine sulphate 1/500 gr. (0.13 mg.)
"Noctinal" (Sodium ethyl sec.-butyl barbiturate Frosst) ..... ¼ gr. (16 mg.)

DOSE:
One or two tablets, one or two hours after meals and upon retiring.

MODES OF ISSUE:
Bottles of 50, 100 and 500 tablets.

Frosst
SINCE 1899
THE SYMBOL OF PROGRESS IN PHARMACEUTICAL RESEARCH

Charles E. Frosst & Co.
MONTREAL CANADA

ASSOCIATION PAGE

Reported by M. T. Macfarland, M.D.

In Retrospect

"The tumult and the shouting dies,
The captains and the kings depart—"

Yes, the conclave is over, and events of the 78th Annual Meeting of the Canadian Medical Association are being reviewed by those members of the profession who were in the midst of activities for the ten-day period from June 17 to 27. Many lived so close to the centre of planning and the carrying through of plans, that impartial appraisal is difficult, but the general consensus of opinion is that the meeting was an outstanding success. The amount of voluntary effort on the part of the various committees was indeed great, and the members are to be congratulated on the success of their efforts. It is impossible to single out individuals for special mention—all who contributed in small or in large measure share the honours. Housing of members who plan to attend the Annual Meeting of the Canadian Medical Association, Affiliated Societies, National Professional Bodies, etc., in any Canadian city, poses a problem of such major concern that the chairman should not have the added responsibility of arranging for equipment. It is hoped that it may be possible to gather the experience of each committee chairman and file it for future reference.

Manitoba Medical Association Annual Meeting

The Executive of the Association met on the morning of Tuesday, June 24th, when the main item of business was the consideration of reports which were to be presented to the Annual Meeting on the afternoon of the same day. It was anticipated that, with preparations for the Scientific Sessions of the Canadian Medical Association Meeting, the counter-attraction of many of the professional groups and, perhaps, the anticipation of the dinner to General Council, the attendance records would not be broken, and such was the case. In response to the appeal from the chair, the business portion of the meeting was carried through with dispatch. A motion to the effect that voting continue until noon on Friday, June 27th, was approved, as was also the resolution which postponed a discussion on matters of the College of Physicians and Surgeons, Medical Economics and Manitoba Medical Service until the adjourned Annual Meeting to be called by the Executive in the Fall. At that time, it is hoped that there may be a more complete discussion of the topics mentioned.

Dinner

The dinner for members of General Council of the Canadian Medical Association and their ladies was one of the outstanding events of the week. Following an informal get-together, 475 sat down to dinner. A toast to the Canadian Medical Association by Dr. A. Hollenberg was responded to by Drs. Leon Gërin-Lajoie, past president, and Wm. Magner, president-elect of the Association. A toast to the Ladies by Dr. Wm. Gardiner was responded to by Mrs. D. C. Aikenhead. The floor show, under the direction of Dr. Stuart Schultz and Dr. A. C. Rumball, was well received, and the final number brought down the house. Sharing the honours for the event were: Drs. D. C. Aikenhead, E. F. E. Black and H. M. Edmison.

Report of Meeting of the Northern Manitoba Medical Society

A meeting of the Northern Manitoba Medical Society was held at the Dauphin General Hospital on June 3rd, 1947. Guest speakers on this occasion were Dr. M. T. Macfarland, Secretary of the Manitoba Medical Association; Dr. J. W. MacLeod and Dr. A. Hollenberg, also of Winnipeg. Dr. M. R. Elliott represented the Department of Health and Public Welfare.

The morning was devoted to clinical discussion of a number of cases of post-operative embolism and of hypertension.

The afternoon was spent in social activities.

In the evening, Miss A. Pearson entertained at dinner at the Hospital. Later, Dr. MacLeod spoke on the management and treatment of duodenal ulcer, a subject which provoked prolonged and interesting discussion.

Dr. Macfarland spoke on the organization of the Manitoba Medical Association and pointed out the advantage of a strong and united front, to keep abreast of the trends in medicine today.

Dr. Hollenberg then spoke on the present status of medicine in Manitoba, from the economic point of view. His wide knowledge and clear understanding of this subject was very evident. The present method of admission of students to the Manitoba Medical College was discussed and a great deal of criticism was voiced.

The Diagnostic Unit was brought up for discussion. The doctors who are using the Diagnostic Unit are not entirely enthusiastic about it. There are numerous problems that must still be solved before it approaches the standard of service expected of it. From the financial point of view, it would appear that the Unit is costing the municipalities and the government considerably more than had been anticipated.

An election of officers was held at which the following members were named to the executive of the Northern Manitoba Medical Society:

President: Dr. R. E. Dicks, Dauphin.

Vice-President: Dr. T. F. Malcolm, Swan River.

Secretary: Dr. W. G. Ritchie, Dauphin.

In conclusion a hearty vote of thanks was extended to Dr. Macfarland, Dr. MacLeod and Dr. Hollenberg, for making the journey to Dauphin and for contributing so much to the success of the meeting. Miss A. Pearson, Superintendent of the Dauphin General Hospital, was commended for the effective assistance she rendered in her capacity as hostess to the doctors at dinner and during a tour of the Hospital.

W. G. Ritchie, Secretary.

North-Western Medical Society

The North-Western Medical Society held its reorganization meeting in Hamiota, June 11.

The officers for the year are:

President: Dr. T. Brownlee, Russell.

Vice-President: Dr. A. MacLean, Elkhorn.

Secretary-Treasurer: Dr. J. E. Hudson, Hamiota.

The meeting was attended by 20 men from the surrounding district. Dr. J. R. Martin and Dr. M. T. Macfarland brought greetings from the Manitoba Medical Association. Dr. F. W. Jackson spoke of the work being done in the health units already in operation and of the work it was hoped to accomplish.

Dr. L. Coke gave an excellent paper on Cardiac problems which was enjoyed by all that were present.

The ladies were entertained to afternoon tea at the home of Dr. and Mrs. E. D. Hudson.

J. E. Hudson.

The Municipal Doctor Contract

The details of the agreement for a municipality to employ a municipal physician were outlined in the July issue of the Review (pages 437-440, inclusive). The final copy appeared as Manitoba Regulation 27/47, in the June 28th issue of the Manitoba Gazette (pages 806-812, inclusive).

R.C.A.M.C. Opportunities

A recent communication from the Defence Medical Association of Canada has the following notation concerning professional pay:

1. "As a result of the recommendation put forward by this body professional pay has once more been granted to medical and dental officers. This is payable at the rate of $60.00 per month to be added to the standard rate of pay for each rank up to and including that of Colonel, and is termed responsibility pay. It is not payable to Reserve Medical Officers but in the event of another general mobilization it would undoubtedly be applied to the Active Service rates of pay as in the past.

2. In view of this it may be that some ex-medical officers will be interested in service in the regular forces. There still are about 30 vacancies in the R.C.A.M.C. Will you please give this information to any young medical graduate who might not have received the letter, as they are less likely to have made firm civilian commitments."

Executive Committee

The next meeting of the Executive Committee will be held in the Medical Arts Club Room at 1.30 p.m., on the afternoon of Sunday, Sept. 14th (one week earlier than the meeting would regularly be held). There will be a full agenda, and the naming of a date for the adjourned Annual Meeting will be the item of special importance. The results of the Election of Officers for 1947-48 are available following the election in June, and will be publicized in the September issue of the Manitoba Medical Review. It is anticipated that the new officers will assume their duties at the conjoint meeting of the old and new Executives, which will be held following the adjourned Annual Meeting.

Tall Tales

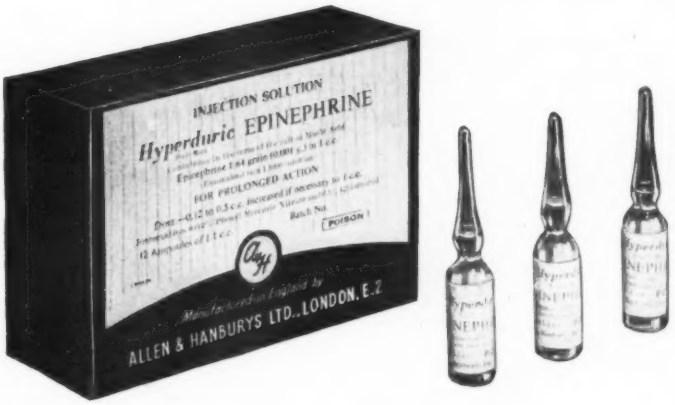
While golf, tennis, boating, fishing, swimming, battling mosquitoes and black flies are the order of the vacation days, it won't be long before the duck-shooting season will be here. Then the Officers of the District Societies will be scratching heads to determine which day a meeting may be called that will not interfere with the sporting proclivities of their members. All the good stories are never told, but some of the choicer ones, fact or fiction, might provide interesting telling or reading for those of the profession who were not able to participate. Send them along and give your confreres the benefit of your experiences.

M. T. Macfarland.

Allenburys

HYPERDURIC

INJECTION SOLUTIONS



FOR PROLONGED ACTION

The *Hyperduric* series of injection solutions were recently introduced by The Allen and Hanburys Company Limited. This series is the result of a search for effective methods of prolonging the pharmacological effect of morphine and other bases. Clinical trials have demonstrated that for a given dose of morphine the period of narcosis can be considerably extended if the base is administered in the form of *mucate* instead of the usual salts such as tartrate or sulphate. This prolongation of effect is also obtained with the mucic acid compounds of other active bases such as epinephrine.

Hyperduric M.H.E.
Morphine, gr. 1/4, hyoscine, gr. 1/80, epinephrine, gr. 1/160, (as mucates) per c.c. Produces amnesia and narcosis for about 8 hours, without fall of blood-pressure.

Hyperduric EPINEPHRINE
1 in 1000 (as mucate). Gives relief for 8 to 10 hours in bronchial asthma.

Hyperduric MORPHINE
Morphine, gr 1/2 (as mucate) per c.c. Relieves pain for 8 to 12 hours.

Boxes of 12 ampoules of 1.1 c.c.

THE ALLEN AND HANBURYS COMPANY LIMITED

Penioral

Penioral (Buffered Penicillin Wyeth) reaches the patient Laboratory-Fresh. It is protected three ways against moisture, arch enemy of penicillin.

PENIORAL BLUE MEANS POTENCY PROTECTION

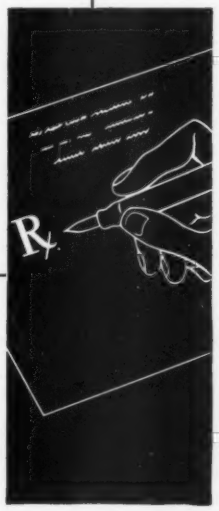
- Vial is sealed air-tight until opening.
- Desiccant absorbs moisture after vial is opened.
- Blue indicator turns pink when excessive moisture threatens full potency of the penicillin.
- Added protection—expiration date on every vial.

Each vial contains an average day's prescription

25,000 International Unit tablets—Vials of 12

50,000 International Unit tablets — Vials of 8

100,000 International Unit tablets — Vials of 8



For assured Potency — Write PENIORAL on your Penicillin ℞

Wyeth

Registered Trade Mark

JOHN WYETH & BROTHER (CANADA) LIMITED
WALKERVILLE - ONTARIO

SOCIAL NEWS

Reported by K. Borthwick-Leslie, M.D.

Colonel and Mrs. Percy G. Hill announce the engagement of their only daughter, Joan Laurel, to Dr. Thomas Richard Osler, Vancouver, B.C. The wedding will take place Aug. 16 in the Church of St. Francis-in-the-Woods, Vancouver.

♦

To the Golf Champions!! Dr. Emma Adamson, capturing top honors in the Medical Women's Golf Tourney on the St. Charles Country Club Course, Convention week. Her score of 98 won her the T. Eaton Trophy. Dr. Aldis Wengel was our other member to prove her ability. In the men, Dr. Frank Gorman, Campbell St., won the C.M.A. prize of Golf Balls and new 6-1 Golf Club.

Dr. Gorman recently won both the Ontario and Alberta cups also. He at present is doing post-graduate work in Regina with the Cancer Research.

♦

We regret the announcement of the retirement of Dr. Dougald McIntyre in December as Medical Supt. of the Municipal Hospitals after 30 years service.

The genial co-operation of Dr. McIntyre will be sadly missed by the profession.

Dr. Bruce Chown attended the International Convention of Pediatricians in New York. He was on the roster of guests delivering papers. Let's hope that New York weather isn't correspondingly hotter than ours.

♦

Dr. and Mrs. Harold Davies are receiving congratulations on the birth of Robert Llewelyn.

♦

Drs. Margaret Owens and Anna Wilson report a grand trip and safe arrival in Amsterdam, a most interesting and instructive stay in Holland. They expect to proceed to Dublin and London, but due to the uncertainty of transportation, threatened strikes, etc., are cancelling their trip to Paris to the Professional and Business Women's Club Convention.

The gals are putting Canada on the map however as both have been elected to the Executive Council of the International Federation of Medical Women. Dr. Edna Guest, of Toronto, was elected Vice-President of the same Federation.

Pre-Marital Rh Tests

Bruce Chown, M.D.
Children's Hospital, Winnipeg

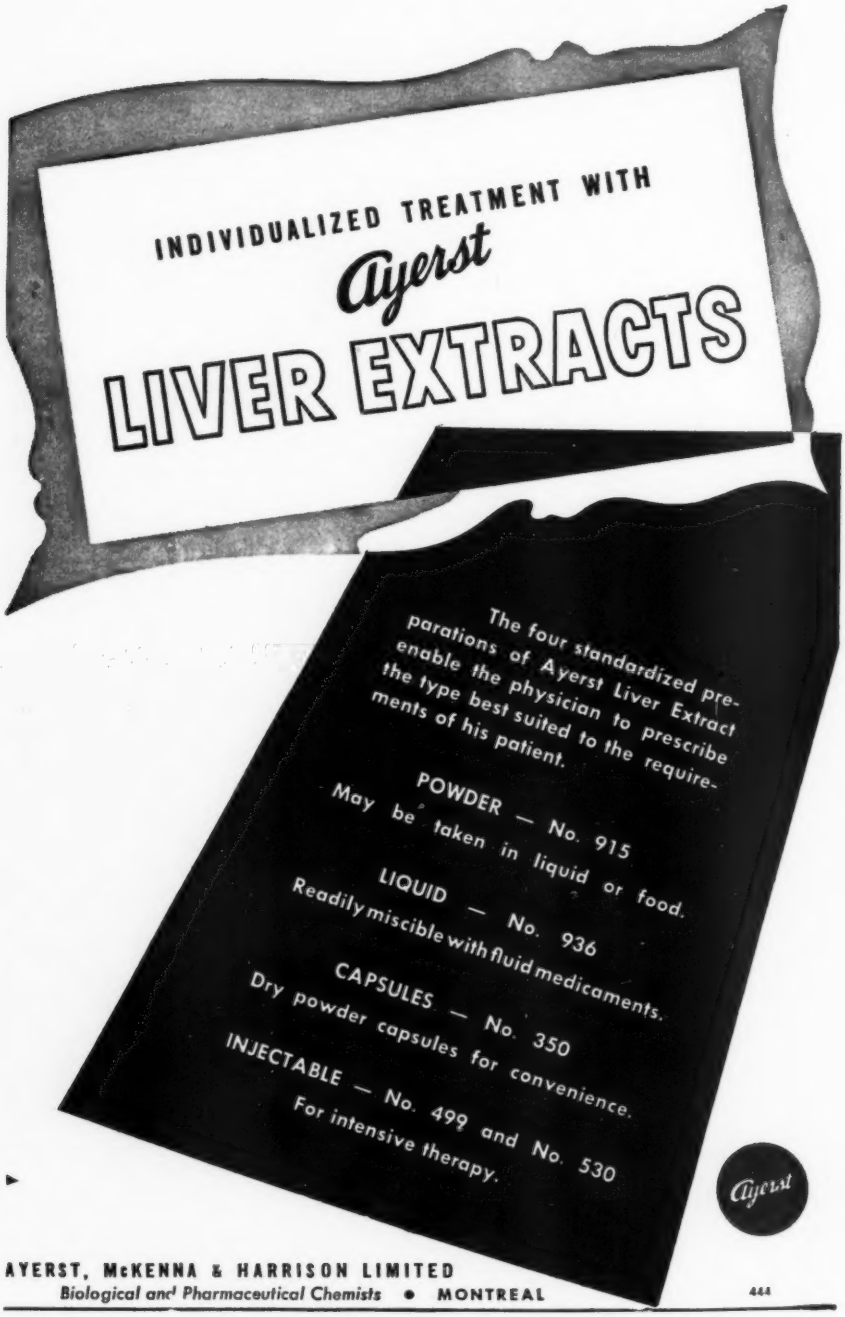
In another column of the Review will be found an announcement about obtaining pre-marital Rh tests. While we are very glad to do these tests and think they should be done, on the other hand we urge the physician having them done to keep the results to himself. The most he should say to an Rh-negative person, particularly a woman, is that she is Rh-negative and that, should she ever need a blood transfusion, she should receive Rh-negative blood.

The value of having the test done premaritally is two fold:

1. If you know ahead of time that a woman is Rh-negative, then you will see to it that you never give her Rh-positive blood. This will cut the incidence of erythroblastosis by ten per cent. as well as reduce transfusion reactions.

2. The rural practitioner can, from these tests, build up a roster of donors of known blood group and Rh type.

The evil of premarital blood testing is the needless fear it may engender in Rh-negative women. Remember that erythroblastosis is an uncommon disease. Most Rh-negative women have perfectly normal children. When erythroblastosis does occur it is very rare in the first pregnancy, unusual in the second—unless the woman is first sensitized by a transfusion of Rh-positive blood or by an induced abortion of an Rh-positive foetus. Erythroblastosis may never occur in families of five, ten or fifteen children. Means are now at hand for treating the new born child of a sensitized Rh-negative woman: there is every hope that means of preventing erythroblastosis will be forthcoming. Don't alarm the Rh-negative women needlessly.


INDIVIDUALIZED TREATMENT WITH
Ayerst
LIVER EXTRACTS
The four standardized preparations of Ayerst Liver Extract enable the physician to prescribe the type best suited to the requirements of his patient.
POWDER — No. 915
May be taken in liquid or food.
LIQUID — No. 936
Readily miscible with fluid medicaments.
CAPSULES — No. 350
Dry powder capsules for convenience.
INJECTABLE — No. 499 and No. 530
For intensive therapy.
Ayerst
AYERST, McKENNA & HARRISON LIMITED
Biological and Pharmaceutical Chemists • MONTREAL
444

Department of Health and Public Welfare

Comparisons Communicable Diseases — Manitoba (Whites and Indians)

DISEASES	1947 May 18 to June 14,'47	1947 Apr. 20 to May 17,'47	1946 May 19 to June 15,'46	1946 Apr. 21 to May 18,'46	TOTALS Dec. 30,'46 to June 14,'47	TOTALS Dec. 30,'45 to June 15,'46
Anterior Poliomyelitis	—	—	—	—	—	1
Chickenpox	140	72	127	73	581	656
Diphtheria	10	6	16	13	54	100
Diphtheria Carriers	4	2	1	1	14	9
Dysentery—Amoebic	—	—	—	—	—	1
Dysentery—Bacillary	—	—	1	—	1	1
Erysipelas	1	5	4	4	22	43
Encephalitis	1	—	—	—	2	—
Influenza	27	19	5	11	82	158
Measles	572	892	420	172	5936	734
Measles—German	4	10	—	1	32	12
Meningococcal Meningitis	—	1	—	2	7	7
Mumps	80	140	305	316	1082	1616
Ophthalmia Neonatorum	—	—	—	—	—	—
Pneumonia—Lobar	30	19	23	13	116	109
Puerperal Fever	1	—	—	—	2	1
Scarlet Fever	17	24	68	27	120	341
Septic Sore Throat	2	1	—	1	10	20
Smallpox	—	—	—	—	—	—
Tetanus	—	—	1	—	1	1
Trachoma	—	2	1	—	2	1
Tuberculosis	78	88	105	75	386	441
Typhoid Fever	1	—	2	2	1	10
Typhoid Paratyphoid	—	—	—	1	—	1
Typhoid Carriers	—	—	—	—	1	2
Undulant Fever	1	2	5	1	4	13
Whooping Cough	144	165	19	37	614	166
Gonorrhoea	178	104	152	208	828	1115
Syphilis	53	44	57	47	275	330
Diarrhoea and Enteritis, under 1 yr.	27	6	28	7	68	70

Four-Week Period Report, May 18th to June 14th, 1947

DISEASES (White Cases Only) *Approximate population.	*718,699 Manitoba	*3,825,000 Ontario	*906,000 Saskatchewan	*2,962,000 Minnesota
Anterior Poliomyelitis	—	3	2	2
Chickenpox	140	1229	124	—
Diphtheria	10	10	3	13
Diphtheria Carrier	4	—	—	5
Diarrhoea & Enteritis (under 1 yr.)	27	—	24	—
Dysentery—Amoebic	—	4	—	4
Erysipelas	1	6	1	—
Infectious Jaundice	—	24	—	—
Influenza	27	11	1	2
Leth. Enceph.	1	—	—	—
Malaria	—	—	—	32
Measles	572	1287	235	2693
Meningococcal Meningitis	—	6	—	7
Measles, German	4	158	44	—
Mumps	80	1517	137	—
Pneumonia, Lobar	30	—	—	—
Puerperal Fever	1	—	—	—
Scarlet Fever	17	242	4	156
Septic Sore Throat	2	2	—	—
Smallpox	—	—	—	1
Trachoma	—	—	1	—
Trichinosis	—	1	—	—
Tuberculosis	78	97	36	170
Tularemia	—	—	—	1
Typhoid Fever	1	4	—	—
Typh. Para-Typhoid	—	—	1	4
Undulant Fever	1	9	2	14
Whooping Cough	144	304	6	139
Gonorrhoea	178	330	—	—
Syphilis	53	229	—	—

DEATHS FROM COMMUNICABLE DISEASES

For 4-Week Period May 20th to June 17th, 1947

Urban — Cancer, 44; Influenza, 1; Measles, 2; Pneumonia, Lobar (108) (107) (109), 4; Pneumonia (other forms), 3; Syphilis, 3; Tuberculosis, 5; Whooping Cough, 1; Mycoses, 1; Diarrhoea and Enteritis (under 2 years), 2. Other deaths under 1 year, 21. Other deaths over 1 year, 151. Stillbirths, 12. Total, 184.

Rural — Cancer, 33; Influenza, 1; Pneumonia, Lobar (108) (107) (109), 3; Pneumonia (other forms), 12; Tuberculosis, 7; Diarrhoea and Enteritis (under 2 years), 4. Other deaths under 1 year, 9. Other deaths over 1 year, 137. Stillbirths, 13. Total, 159.

Indians—Influenza, 2; Pneumonia (other forms), 3; Tuberculosis, 7; Diarrhoea and Enteritis (under 2 years), 2. Other deaths under 1 year, 6. Other deaths over 1 year, 5. Stillbirths, nil. Total, 11.

♦

Poliomyelitis—As of July 16th only four cases have been reported but this disease is prevalent in Vancouver.

Diphtheria—Ten cases in four weeks is too many for our small population! Is every child in your practice or district immunized?

Diarrhoea and Enteritis under one year is a common and serious disease. The Children's Hospital staff is engaged in a special study of this disease at the present time. July, August and September are the months when incidence is most apt to be high.

Smallpox—One case in Minnesota—it still strikes!

CRYSTALLINE PENICILLIN *G*

It has been widely established that Penicillin *G* is a highly effective therapeutic agent. The crystalline form of Penicillin *G* prepared and supplied by the Connaught Medical Research Laboratories is highly purified. Because of this high degree of purity, pain on injection is seldom reported and local reactions are reduced to a minimum. Crystalline Penicillin *G* is heat-stable, and in the dried form can be safely stored at room temperature for at least three years.

PHOTOMICROGRAPH
OF PENICILLIN CRYSTALS

HOW SUPPLIED

CRYSTALLINE PENICILLIN *G* IN VIALS

Highly purified Crystalline Potassium Penicillin G is supplied by the Laboratories in sealed rubber-stoppered vials of 100,000, 200,000, 300,000 and 500,000 International Units. No refrigeration is required.

CRYSTALLINE PENICILLIN *G* IN OIL AND WAX (ROMANSKY FORMULA)

A heat-stable and conveniently administered form of Crystalline Sodium Penicillin G in peanut oil and beeswax is available in 1-cc. cartridges for use with B-D* disposable plastic syringes, or as replacements with B-D* metal cartridge syringes. Each 1-cc. cartridge contains 300,000 International Units of Crystalline Sodium Penicillin G.

* T.M. Reg. Becton, Dickinson & Co.

CRYSTALLINE PENICILLIN *G* IN TABLETS FOR ORAL USE

Buffered tablets of Crystalline Sodium Penicillin G are distributed by the Laboratories in tubes of 12. Two strengths are supplied, 50,000 and 100,000 International Units per tablet. No refrigeration is required.

CONNAUGHT MEDICAL RESEARCH LABORATORIES
University of Toronto Toronto 4, Canada

Depot for Manitoba

BRATHWAITES LIMITED
431 Portage Avenue, Winnipeg

HAY FEVER RELIEF...

PYRIBENZAMINE

ANTISTINE

From the first signs of Cottonwood pollination in April, to the end of the Ragweed season in September, in most cases complete alleviation of the discomforts of seasonal allergies is assured by the use of Pyribenzamine Tablets, or Antistine injections.

Detailed Literature on both preparations will be sent upon request.

ISSUED

PYRIBENZAMINE, for oral use:

Tablets, bottles of 50 and 500.

ANTISTINE, for parenteral use:

Ampoules, boxes of 5, 20 and 100. Also available in tablet form for oral use, in bottles of 50 and 500.

CIBA COMPANY LIMITED • MONTREAL

RAMSAY

Guild Optician

A friendly optical service backed by a wealth of experience and skill, and equipped with the most modern of scientific instruments.

Our ability to meet the high standards as required by the Eye Physician has been fully demonstrated over a period of many years.

•

ROBERT S. RAMSAY

Phone 94 760

Medical Arts Building

WINNIPEG

Manitoba Depot

for

Connaught Laboratories

Biological Products

Insulin, Liver Extract, Penicillin

•

Phone, wire or write for immediate service on all prescription requirements.

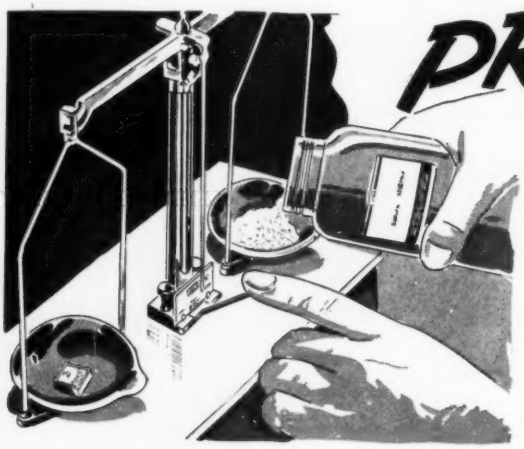
•

BRATHWAITES LIMITED

Phone 92 635

Portage Avenue Winnipeg, Man.

Regular Stockists



PRECISION!

Precision is the guiding principle in filling prescriptions at . . . . EATON'S.

All prescriptions are compounded and filled accurately and scientifically by fully qualified pharmaceutical chemists. Each prescription is then double checked for the patient's protection.

EATON'S prescription department represents an outstanding example of quality, accuracy, and service; the prime factors in the reliable dispensing of medicinal ingredients.

THE T. EATON Co LIMITED

DEPENDABILITY...

The dependability of "RAMSES"* Vaginal Jelly has been established by ample clinical use. Controlled tests have proved that it

- **Is rapidly effective;**
- **Provides sustained barrier action;**
- **Is free of irritating or toxic effects;**
- **Is acceptable to the patient.**

"RAMSES" Vaginal Jelly is available through all recognized pharmacies.

** The word "RAMSES" is a registered trademark.*

JULIUS SCHMID (Canada) Ltd.
31 Teraulay St. · Toronto, Ontario

EMULGEN

Penicillin Vehicle

● One injection of 200,000 units of penicillin with Emulgen maintains serum concentrations above 0.03 units per cc. for 8 hours or more. ● Only 3 injections required in 24 hours—less discomfort to the patient—less inconvenience to the Physician. ● A flowing emulsion — simple to prepare — easy to inject. ● A sesame oil base that is free of local reactions and is completely absorbed.

Distributors

Bate & Bate Wholesale Drugs

Winnipeg **Phone 23 371**

"A cheerful drink"

DREWRYS DRY

GINGER ALE

The Winnipeg Drug Co., Limited

PRESCRIPTION SPECIALISTS

Agents for
NICHOLSON'S VACCINES

381 PORTAGE AVE (Cor. Edmonton)
Phone **96 478**

PHYSIOTHERAPY

by J. C. Swann

Member of
The Canadian Physiotherapy Association

(Incorporated by Dominion Charter)

✚

Graduate of: Massage, Swedish Movements, Muscle Re-education and Medical Gymnist, 2 years training in Christie Street Hospital, Toronto, Masseur at Deer Lodge Hospital, Pensions and Health, Winnipeg, for the past 15 years.

(Under Medical Supervision or Direction.)

✚

after 1 p.m. **Winnipeg, Man.** **54 195**
Phone 98 912 **438 Somerset Bldg.** **Res. Phone**

Available for Locum Tenens

Doctor wishes to serve Locum Tenens from Aug. 10th to Sept. 10th. Communicate with Dr. S. Berger, 29 Scotia St., Winnipeg. Phone 54 097.

DOCTORS' and NURSES' DIRECTORY
212 Balmoral Street, Winnipeg, Man.
24-Hour Service

Phones:
Doctors' — **37 123**
Nurses' — **72 151**
Registered Nurses.
Practical Nurses.

Victorian Order of Nurses—night calls, Sundays and holidays.
Phone **72 008**

Physiotherapists and Masseuses
—P. BROWNELL, Reg. N., Director.

The New Anti-Histamine Substance

NEO-ANTERGAN

(2786 RP)

is well indicated in
all allergic conditions

Documentation on Request

Laboratory

POULENC FRERES
of Canada Ltd.

« COLLECTIONS »

The MEDICAL BUSINESS BUREAU can render you an experienced collection service—with 19 years' service to the Medical and Dental professions.

We have every facility for an efficient collection service—

Investigations on character and financial worth;
Personal contact with doctors;
Follow-ups;
Complete legal facilities;
Bonded agents throughout Canada;
Regular monthly returns.

Doctor, you require a tactful and dignified service that will not jeopardize your position with the patient. Write or telephone—

MEDICAL BUSINESS BUREAU

211 Power Bldg.

Telephone 95 001 **WINNIPEG**